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COMMITTEE OF EXPERTS ON THE TRANSPORT
OF DANGEROUS GOODS

REPORT OF THE COMMITTEE OF EXPERTS ON ITS SEVENTEENTH SESSION
(7-16 December 1992)

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REPORT

ATTENDANCE

1. The Committee of Experts on the Transport of Dangerous Goods held its seventeenth session from 7 to 16 December 1992. The session was attended by experts from the following countries: Canada; China: France: Germany; Italy; Japan; Netherlands; Norway; Poland; Russian Federation; Sweden; United Kingdom; United States of America. Observers from the European Community (EC), Austria, Argentina, Belgium, Brazil, Finland, Iran (Islamic Republic of), Kenya, Mexico, Morocco, Spain, Switzerland and the Ukraine participated in accordance with Rule 72 of the Rules of Procedure of the Economic and Social Council. Representatives of the United Nations Environment Programme (UNEP) as well as the following specialized agencies and intergovernmental organizations attended the session: International Labour Organisation (ILO); International Civil Aviation Organization (ICAO); International Maritime Organization (IMO); World Health Organization (WHO); Central Office for International Railway Transport (OCTI). Representatives of the International Organization for Standardization (ISO), the International Air Transport Association (IATA), the International Road Transport Union (IRU), the European Chemical Industry Council (CEFIC), the International Confederation of Drum Reconditioners (ICDR), the International Chamber of Shipping (ICS), the Hazardous Materials Advisory Council (HMAC), the European Syndicate on Steel Drums (SEFA), the European Secretariat of Manufacturers of Light Metal Packagings (SEFEL) and the Federation of European Aerosol Associations (FEA) took part in the discussions when items of concern to their Organizations were considered. The secretariat of the Organization for Economic Co-operation and Development (OECD) was also present at the invitation of the secretariat.

2. The session was opened by Mr. J. Capel Ferrer, Director, ECE Transport Division. In his opening statement, the Director underlined the commitment of international organizations responsible for regulating the international transport of dangerous goods for the various modes of transport to harmonize their rules on the basis of the Recommendations on the Transport of Dangerous Goods. He also stressed the role that the Committee of Experts should play in the global harmonization of systems of classification and labelling of chemicals after the adoption of Chapter 19 of Agenda 21 by the United Nations Conference on Environment and Development (UNCED). Finally, he drew attention to the growing interest shown by countries from all continents including developing countries in the work of the Committee of Experts, which was reflected by the presence of several new countries attending as observers. According to Resolution 1973 (LIX) of the Economic and Social Council, the membership of the Committee should include five experts from developing countries, and this was not yet the case.

ADOPTION OF THE AGENDA

3. The Committee of Experts adopted the provisional agenda prepared by the secretariat (ST/SG/AC.10/18 and Add.1).

ELECTION OF OFFICERS

4. Mr. L. Grainger (United Kingdom) and Mr. J. Monteith (Canada) were elected Chairman and Vice-Chairman respectively.

RESOLUTION 1991/57 OF THE ECONOMIC AND SOCIAL COUNCIL

5. The Committee noted that the seventh revision of the Recommendations on the Transport of Dangerous Goods had been published in English, French, Spanish and Chinese. The Russian and Arabic versions had not yet been published, but priority would be given to the preparation of the eighth revision in those languages.

6. The Committee noted that one additional Professional post had been allocated to the Transport Division of the Economic Commission for Europe for the service of the Committee and the ECE Working Party on the Transport of Dangerous Goods but that there was a freeze on external recruitment and this post had not yet been filled. However, the Committee welcomed the transitional redeployment measures taken by the Executive Secretary of the ECE and expressed its satisfaction for a net improvement in the servicing of its sessions. Nevertheless it suggested that the vacant post should be officially filled as a matter of urgency to maintain this quality of service.

7. The Committee also stressed the role of the secretariat in the implementation of the Recommendations on the Transport of Dangerous Goods and therefore requested that adequate funding be provided to ensure secretariat representation at appropriate meetings of international bodies to which the Recommendations are directed, especially IMO and ICAO, and meetings of organizations cooperating in the process of harmonization of classification and labelling systems as requested by UNCED in Chapter 19 of Agenda 21.

ACTIVITIES OF INTERNATIONAL ORGANIZATIONS CONCERNED WITH REGULATIONS OR RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS AT AN INTERNATIONAL LEVEL

Outcome of the United Nations Conference on Environment and Development (UNCED)
Documents ST/SG/AC.10/C.3/R.325; ST/SG/AC.10/R.411; ST/SG/AC.10/R.412; ST/SG/AC.10/R.413; ST/SG/AC.10/R.414; ST/SG/AC.10/R.415 (Secretariat)

8. In these documents, the secretariat had reproduced the texts of Chapters 19, 20, 22 and 38 of Agenda 21, as they were relevant to the work of the Committee. Documents -/R.411 and -/C.3/R.325 concerned the work of the OECD Clearing House on the Classification of Chemicals, undertaken in the context of Chapter 19 on the environmentally sound management of toxic chemicals including prevention of illegal international traffic in toxic and dangerous products. It was recalled that the role of the Committee in that context had been discussed during the fifth and sixth sessions of the Sub-Committee (ST/SG/AC.10/C.3/10, paragraphs 112 - 124 and annex 7; ST/SG/AC.10/C.3/12, paragraphs 154 - 173).

9. The Committee noted that, in connection with paragraph 19.29 of Chapter 19 of Agenda 21, a coordinating group had been established by the UNEP/ILO/WHO International Programme on Chemical Safety (IPCS) for the purposes of coordinating international efforts

relating to the harmonization of systems of classification and labelling of chemicals, promoting the benefits of harmonization and ensuring that all interested parties may participate in the harmonization process. The Committee was already represented in this Group by its secretariat.

10. The representative of ILO, as Secretary of the Coordinating Group, reported on the third consultation of this "IPCS Coordinating Group for the Harmonization of Chemical Classification Systems", held on 16 and 17 November 1992 at WHO in Geneva. He explained that a work plan was in preparation for meeting the objectives of UNCED (i.e. paragraph 19.27 of Chapter 19 of Agenda 21, a globally harmonized hazard classification and compatible labelling system, including material safety data sheets and easily understandable symbols, should be available, if feasible, by the year 2000). The Group had agreed that, to achieve harmonization, changes in all systems would be necessary; the level of protection should not be reduced; transitional measures should be required. OECD would be the focal point for the work on the health hazards. ILO would be the focal point for physical hazards and would cooperate with the Committee of Experts on the Transport of Dangerous Goods to take account of the Manual of Tests and Criteria.

11. The Committee noted that a report on the various systems of classification and labelling for physical hazards was under preparation and would be available in January 1993.

12. A report on hazard communication systems, including labelling, was also under preparation in the United States of America, and should be available by March 1993, and the representative of the United States in the Coordinating Group had offered to be the focal point on that issue. The Committee recalled that the labelling system developed for the purpose of transport was widely implemented throughout the world and was part of mandatory training programmes not only directed at transport workers but to all workers responsible for the handling of dangerous goods in the work place. The wide acceptance of this system should duly be taken into account as paragraph 19.28 of Agenda 21 stated that the new system should draw on current systems to the greatest extent possible.

13. With regard to the work on safety data sheets, the expert from the United States expressed the view that, from the transport safety perspective, this area was not one where global harmonization needed to be achieved; the safety information to be provided to end users of chemicals was different from the information to be provided to transport operators for emergency purposes, which could even vary depending on the specific mode of transport.

14. Concern was expressed with regard to the status and functioning of the IPCS Coordinating Group. A number of new bodies were being created in the process of restructuring the United Nations following UNCED, including a new Commission on Sustainable Development, an interagency committee on sustainable development, a possible intergovernmental forum for chemical safety, and the relationship between these new bodies themselves and the reporting lines were not clear. It was recalled that the Committee of Experts on the Transport of Dangerous Goods reported directly to the Economic and Social Council and that its terms of reference included the harmonization of classification and of labelling, which was being achieved for all modes of transport after forty years of effort.

15. The representative of ILO said that the IPCS Coordinating Group would not take decisions, as its role was to try to identify problems and to help different organizations concerned with the classification and labelling systems in harmonizing their systems through consultation. The representative of OECD said that he expected that the work approved by his organization as a focal point for health hazards would be endorsed by the IPCS Coordinating Group. The Committee emphasized the point that no decision should be taken by the Coordinating Group and that all work carried out by focal points would also have to be submitted and considered by the Committee. It was also suggested that all proposed changes to existing classification or labelling systems should be duly evaluated with regard to their financial and practical implications.

16. Concern was also expressed over the lack of clarity in the membership of the Group, the criteria for inviting organizations and government representatives and the mandate of those representatives. The representative of IRU pointed out that he could not inform the members of his organization of the IPCS activities, as the agenda, reports and calendar of meetings were not circulated and the names and addresses of representatives were not known.

17. The Committee noted that the next consultation of the IPCS Coordinating Group would take place in Geneva from 31 May to 1 June 1993. The secretariat was requested to inform regularly all members and observers of the Committee as well as interested organizations of the latest developments in that field so that the Sub-Committee could take appropriate action at each of its sessions.

18. The representative of OECD explained the work that had been carried out so far by the Extended OECD Clearing House on Harmonization of Classification systems (to which the Committee has been invited to participate) with regard to toxicity. He informed the Committee that consultation on the harmonization of classification systems with regard to terrestrial effects of chemicals would take place in Stockholm from 9 to 11 February 1993. The expert from Sweden agreed to represent the Committee at that consultation.

19. The representative of OECD also confirmed that although the criteria developed by the European Community had been preliminarily agreed as criteria for aquatic toxicity, a final conclusion had not yet been reached and further discussions would be held on the subject.

20. The Committee agreed that it was premature to consider at this session the outcome of the first and second sessions of the Extended OECD Clearing House on the Harmonization of Classification Systems for acute oral, dermal and inhalation toxicity and on environmental hazard (documents -/R.411 and -/C.3/R.325).

21. The secretariat was requested to circulate officially information provided by CEFIC on the number of substances that would be affected by an increase of the LD_{50} cut-off limit for oral toxicity from 200 mg/kg to 500 mg/kg (solids) and CEFIC was invited to evaluate the cost of such a modification to the industry. An informal document prepared by the expert from the United States on the second meeting of the Extended OECD Clearing House, suggesting action to be taken by the Committee in the next biennium in the context of participation in the Clearing House, should also be reproduced as an official document for discussion at the next session of the Sub-Committee.

22. The Committee noted that OECD was waiting for information to be provided by Canada on the classification criteria for inhalation toxicity before pursuing its work on acute toxicity classification.

23. The Committee, recognizing the merits of developing harmonized classification and labelling systems, considered that there should be no pressure for harmonizing urgently those systems, and agreed that any change to the classification criteria and the labelling provisions in the Recommendations on the Transport of Dangerous Goods should be thoroughly evaluated both for its implications on transport safety and for its cost to the industry. The Committee noted in that respect that the EC had decided to prepare its own study on the financial implications of the process of harmonization.

24. The Committee took note of documents -/R.412, -/R.413, -/R.414 and -/R.415 on, respectively, Chapters 38, 19, 20 and 22 of Agenda 21, and decided to carry forward those documents to the next session of the Sub-Committee as background information on the UNCED decisions.

Relations with UNEP

25. The Committee took note of the work of UNEP in relation to the prevention of illegal international traffic in toxic and dangerous products, in particular in the context of the implementation of the London Guidelines for the Exchange of Information on Chemicals in International Trade, amended 1989, and the development of the Prior Informed Consent (PIC) procedure for controlling the export of toxic chemicals.

26. The Committee noted that the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal had entered into force on 5 May 1992, and that the first Conference of the Parties had been convened in Piriapolif, Uruguay, from 30 November to 4 December 1992. The Conference adopted 23 decisions, a number of which have relevance to the transport of dangerous goods. In particular, the Conference requested industrialized countries to prohibit transboundary movements of hazardous wastes and other wastes to developing countries for disposal. It also requested developing countries to prohibit the import of hazardous wastes from industrialized countries. Another decision concerned the provisional adoption of the notification and movement documents prepared by the secretariat. Finally, the Conference requested the secretariat to cooperate further with IMO and consult, as appropriate, the UN Committee of Experts on the Transport of Dangerous Goods, as well as other relevant international organizations, in the development of criteria for the definition of hazardous characteristics as referred to in Annex III of the Basel Convention.

Relations with IAEA and IMO

27. The Committee noted that an IAEA/IMO/UNEP Working Group had been established for the marine transport of irradiated nuclear fuel, which met in IMO from 7 to 11 December 1992. The representative of IMO explained that despite the lack of data to show that the present IAEA standards might not be adequate, a number of maritime administrations favoured trying, as a precautionary principle, to ban the carriage of irradiated nuclear fuel by sea. A second meeting was expected in April 1993 to consider a draft Code of Safe Practice for Ships carrying Irradiated Nuclear Fuel developed by IMO for possible extension to ships carrying plutonium and high level radioactive waste.

28. The observer from Austria explained that deep concern had been expressed at the recent meeting of the IAEA Standing Advisory Group on the Safe Transport of Radioactive Material (SAGSTRAM 9) concerning the way IMO had followed initiatives disputing the concept of multimodal transport of type B(U) packages. If the IAEA concept of multimodal packages was questioned in such a way today, the same might happen in the future to the UN concept of multimodal packages for other dangerous goods.

29. The expert from Italy drew the attention of the Committee to the possible development of a legally binding instrument on the transboundary movement of radioactive waste, as mentioned in paragraph 22.5 (a) of Chapter 22 of Agenda 21 (see document ST/SG/AC.10/R.415).

30. The Committee noted that IAEA expected to issue revised transport regulations (Safety series No.6, 7, 37 and 80) in 1996. The session of the second Revision Panel would be held from 17 to 21 May 1993, and would discuss, inter alia, the use of UN packagings for the transport of radioactive material and the suitability of the existing UN numbers assigned to radioactive materials.

Relations with IMO

31. The Committee noted with satisfaction that IMO had decided to add, on the agenda of its Sub-Committee on the Carriage of Dangerous Goods (CDG), a permanent item on amendments to the International Maritime Dangerous Goods (IMDG) Code for harmonization with the Recommendations on the Transport of Dangerous Goods. Nevertheless, the representative of IMO underlined the difficulties encountered by his organization in the implementation of the numerous changes to the Recommendations that occurred every two years. These changes resulted in bulky amendments to the IMDG Code, sometimes for a limited increase in safety. These changes undermined the credibility of the IMDG Code, as it was difficult on board ships and in ports to keep up with the frequency of amendments. This situation entailed practical difficulties with regard to the enforcement of the IMDG Code provisions. Therefore he suggested that the periodicity of amendments should be increased to four years rather than two years.

32. The expert from the United States pointed out that most modifications in Amendment 25-89 to the IMDG Code and a great number to be included in Amendment 27 resulted from original IMO work, especially on the introduction of provisions for marine pollution aspects, and not only from changes to the UN Recommendations. Moreover, he believed that most of the changes have effect on the consignor of dangerous goods, and not on the marine industry.

33. The Chairman recalled that most problems of harmonization resulted in the past from the reluctance of IMO and the RID/ADR Joint Meeting to implement systematically the UN Recommendations. This was not the case any longer, and as from 1 January 1995 a high degree of intermodal harmonization was expected, which should imply a need for fewer amendments to the Recommendations.

34. Several experts agreed with IMO that in the future the Committee should concentrate on substantive matters and should avoid modifications that do not have safety justifications. However, the proposal to increase the periodicity of amendments to four years was not supported by any expert at this time. The question could be reconsidered in 1994 once intermodal harmonization has been achieved, but some experts indicated that they would not be prepared to envisage such a long period, as the Committee had to respond efficiently to new developments in transport technology and the chemical industry.

35. The Committee noted that IMO had introduced a new provision in draft amendment 27 to the IMDG Code requiring that all cargo transport units carrying dangerous goods in limited quantities should be marked with the words "LIMITED QUANTITIES". The representative of IMO explained that this marking responded to the request of the IMO Sub-Committee on the Carriage of Dangerous Goods that all units carrying dangerous goods in limited quantities be identified when loaded on board ships. The expert from Germany offered to prepare a new document to align Chapter 15 of the Recommendations with section 18 of the General Introduction to the IMDG Code during the next biennium.

36. The majority of the Committee expressed concern regarding the IMO decision, as it was contrary to the provisions and principles of the Recommendations. Any question relating to the marking and labelling of multimodal units such as vehicles and freight containers should be discussed at intermodal level, i.e. by the Committee of Experts, and such a unilateral decision would create disharmony. In addition, the marking of the words "LIMITED QUANTITIES" on a cargo transport unit did not convey any safety information to operators unaware of the presence of dangerous goods in limited quantities inside the unit, and could even be misinterpreted.

37. The Committee supported the views of the expert from the United States, that this specific question should be raised at the next session of the IMO Maritime Safety Committee and invited the expert from the United State to prepare a submission. The expert from Germany expressed a reservation on those views.

38. The Committee decided not to keep document ST/SG/AC.10/C.3/R.221 (Background information on the activities of IMO with respect to the marine transport of hazardous wastes in packaged form) on the agenda of the next session of the Sub-Committee, but considered that document -/C.3/R.222 on activities with respect to the marine transport of marine pollutants should be carried forward as questions relating to environmentally hazardous substances were likely to be discussed in the next biennium.

Relations with ICAO

39. The Committee noted that ICAO had already published the 1993/1994 version of the Technical Instructions for the Safe Transport of Dangerous Goods by Air, which included the provisions of the seventh edition of the UN Recommendations and was about to publish a 1993/1994 version of its emergency response guide. ICAO would include systematically the new recommendations in its Technical Instructions, and did not foresee any problem with the two-year periodicity of amendments.

Relations with UN/ECE and OCTI

40. The Committee noted that a new version of RID and ADR, incorporating, inter alia, new classes 1, 4.1, 4.2, 4.3, 5.1, 5.2, 9 and provisions on IBCs, harmonized on the basis of the UN Recommendations, would enter into force on 1 January 1993. Further work was being carried out by the RID/ADR Joint Meeting for harmonization of classes 3, 6.1, 8 and 6.2 by January 1995.

41. The Committee emphasized the importance of having modal organizations such as IMO, ICAO and OCTI represented at all sessions of the Sub-Committee and Committee by their secretariats, so that their views are duly taken into account in the process of elaborating multimodal recommendations.

Relations with ISO

Documents ST/SG/AC.10/R.348; ST/SG/AC.10/R.418

42. The representative of ISO described in detail (document -/R.418) the work of the Technical Committee ISO/TC 58 - Gas cylinders. (Design standards, steel gas cylinders, aluminium alloy gas cylinders, quality assurance programme, labels, toxicity of gas mixtures, etc). New work items are being considered on the compatibility between gases and materials, the determination of tissue corrosiveness of a gas or gas mixture, manufacturer marking of gas cylinders, the procedure for change of gas service and the safe handling of compressed gas cylinders. He also mentioned the establishment of a new technical committee on the standardization of environmental management tools and systems, and agreed to provide additional information concerning the activities of this new committee.

43. The Chairman of ISO/TC 58 expressed concern at the increased involvement of the European Standardization Committee (CEN) and on the possible elaboration by CEN of a parallel set of different standards that would impede the international trade in gas cylinders.

44. The expert from the United States said that the ISO draft standards could possibly be proposed for inclusion in the Recommendations during the next biennium, although certain items such as manufacture controls and quality assurance should be discussed in the governmental forum rather than in an industry forum. He considered that the Committee should participate in the work of ISO during the next biennium, and if necessary his country would be prepared to host a working group to facilitate the endorsement of ISO work. He also regretted the possible development of different European standards that would conflict with ISO work and could disrupt efforts for an internationally acceptable solution.

45. The Chairman of ISO/TC 58 said that although the date of completion of the work could not yet be indicated, the draft standard ISO 9809 on Refillable seamless steel gas cylinders for worldwide usage should be ready by early 1993. New documents could be approved by the end of 1993 and the standard published in 1994. It was considered essential that an effective quality assurance programme be set up for the implementation of the future ISO 9809. He proposed to prepare a draft document reflecting the views of ISO members and taking account of the European work on the certification scheme, that could be discussed at the July session of the Sub-Committee.

46. The Committee, recalling that the issue of standards for gas cylinders had been pending for a very long time and that the work had been entrusted to ISO to avoid duplication, welcomed the proposal and encouraged ISO to complete its work in the next biennium, so that appropriate references may be included in the Recommendations.

WORK OF THE SUB-COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS AT ITS FOURTH, FIFTH AND SIXTH SESSIONS AND RECOMMENDATIONS MADE BY IT, TOGETHER WITH SUBSEQUENT PROPOSALS ARISING THEREFROM

47. A consolidated text of draft amendments to the Recommendations on the Transport of Dangerous Goods had been prepared by the secretariat (ST/SG/AC.10/R.342). These draft amendments were adopted as modified in accordance with the new decisions taken by the Committee (see paragraphs 48 to 197 and annexes 1, 3, 4, 5, 6, 7).

(a) Class 1 and related matters

48. The representative of CEFIC drew the attention of the Committee to the ICAO Convention on the Marking of Explosives for the Purpose of Detection. He was of the opinion that the work carried out by an ICAO ad hoc Group of Specialists on the Detection of Explosives would have consequences on the classification of explosives and therefore on the safe transport of Class 1 substances. The secretariat was invited to draw the attention of ICAO to the need for coordinating such work with the activities of the Committee of Experts and to clarify the status of the Convention and its possible implications.

Document ST/SG/AC.10/R.366 (HMAC)

49. The question of using IBCs for the carriage of certain explosives had already been discussed by the Sub-Committee (ST/SG/AC.10/C.3/12, paragraph 11), and it had been agreed that it should be addressed in the next biennium on the basis of proposals to be prepared by the experts from Germany in conjunction with the review of existing Packing Methods in Chapter 10. The proposal by HMAC, although supported by several experts, was not adopted.

Document ST/SG/AC.10/R.429 (IMO)

50. As the IMO Sub-Committee on the Carriage of Dangerous Goods had decided to delete from the IMDG Code the provision corresponding to paragraph 4.7.2 of the Recommendations since this provision would apply to other classes in addition to Class 1, the Committee of Experts decided to delete paragraph 4.7.2 from the Recommendations (see annex 1).

(b) Manual of Tests and Criteria
Document ST/SG/AC.10/R.343 (Secretariat)

51. This document contained a consolidated text for a rationalized test manual, prepared by the secretariat on the basis of decisions taken during the sixth session of the Sub-Committee of Experts. In addition, the expert from the United Kingdom had prepared an informal complete draft revised text of the Manual of Tests and Criteria, which was made available to all

participants for future comments. He had also prepared a draft plan of work and timetable for finalizing the rationalization of the Manual of Tests and Criteria in the next biennium, which was adopted (see annex 2).

52. The expert from Germany proposed to host a working group for consideration of the draft revised Manual of Tests and Criteria prepared by the United Kingdom, from 8 to 12 March 1993 at the Bundesanstalt für Materialforschung und -prüfung (BAM). This generous offer was welcomed by the Committee and delegations intending to participate were requested to notify Mr. M. Steidinger*/ by the end of December 1992.

53. As the expert from France had presented an informal paper on tests for classification of solid oxidizing substances, it was agreed that participants to the working group could discuss informally the question of classification of oxidizing substances, but that any proposal in that field should be formally submitted to the Sub-Committee. The terms of reference of the working group were limited to the editorial review and rationalization of the Manual, and this review should not imply reclassification of existing substances.

New approach to testing of explosive materials on hazard of deflagration to explosion transition (Russian Federation)

54. The expert from the Russian Federation presented an informal paper on the subject, which the secretariat was requested to reproduce as an official document for the next session of the Sub-Committee. The expert from the Russian Federation was also requested to submit new information on the subject well in advance for the July session of the Sub-Committee, as such questions were not expected to be discussed at the December 1993 session.

(c) **Listing and classification (Divisions 4.1 and 5.2)**

Document ST/SG/AC.10/R.344 (United Kingdom)

55. The proposal to amend the definition of substances which should not be considered as self-reactive substances when their self-accelerating decomposition temperature (SADT) is greater than 75°C in order to take account of the size of the package (50 kg) was adopted. An alternative proposal by the expert from the United States to replace the definition by a new definition referring to substances thermally stable when tested at 75°C for 48 hours according to test 3 (c) of the Manual of Tests and Criteria was rejected.

56. The proposal not to adopt the draft amendments to paragraphs 14.2.2.3.2 and 14.2.2.3.3 agreed at the sixth session of the Sub-Committee (see ST/SG/AC.10/R.342) was adopted.

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*/ Mr. M. Steidinger, Bundesanstalt für Materialforschung und -prüfung (BAM), Fachgruppe 4.3, Unter den Eichen 87, D-1000 Berlin 45, Germany.

Document ST/SG/AC.10/R.385 (Germany)

57. The proposal to amend the entry for UN 2557 to cover nitrocellulose formulations with or without plasticizer with or without pigments was adopted with modifications prepared by a small drafting group (see annex 3). It was agreed that all existing entries covering nitrocellulose formulations may need to be reviewed in the future in the light of this amended entry.

Document ST/SG/AC.10/R.391 (CEFIC)

58. The Committee supported in general the views expressed by CEFIC that the requirement to notify the country of destination before the transport of new organic peroxide formulations was not easy to implement in practice as it implied unnecessary bureaucratic burdens for the industry and the administration. The Committee noted that for sea transport, Germany was the only country requiring such notification, and that in RID/ADR no notification was required but the transport conditions had to be included in the transport documentation.

59. The expert from Germany considered that the requirement for notification should be retained as it would be necessary for the carrier to know the conditions of transport for new substances. Nevertheless the Committee agreed to delete the requirement for notification in paragraph 11.3.2.5 for organic peroxides, as well as the corresponding requirement in paragraph 14.2.2.3.3 for self-reactive substances, on the understanding that updating of tables 11.3 and 14.1 would have to be done regularly taking into account new substances whose classification and conditions of transport have been approved by the country of origin and products which are no longer transported internationally (see annex 1).

60. The Committee adopted the list of new entries and modifications to be included in tables 11.3, 11.4 and 11.5 according to annexes 1, 2, 3 and 5 of the CEFIC proposal with some changes and additions on the basis of an informal paper from the United States (see annex 1). The Committee adopted modifications to paragraph 13.6.1.5 of the Recommendations in order to require additional information on the conditions of transport in the transport documents (see annex 4).

Document ST/SG/AC.10/R.397 (United Kingdom)

61. The Committee agreed to exclude substances related to self-reactive substances and desensitized explosives of division 4.1 from the scope of Chapter 15 so that they should not be carried under the limited quantities provisions (see annex 1).

Documents ST/SG/AC.10/R.383 (Germany), ST/SG/AC.10/R.400 (United States)

62. As a matter of principle, the expert from Germany considered that air bag modules and seat-belt modules, which are articles containing explosive or pyrotechnic substances, should be classified in accordance with the procedures applicable to Class 1. Nevertheless, as a compromise, he proposed to amend Special Provision 235 to reflect those principles. The Committee decided to keep the new entry UN 3268 in Class 9 (see document -/R.342) and to extend it to air bag inflators as proposed by the expert from the United States in

document -/R.400 and to seat-belt pre-tensioners as orally proposed by the expert from Japan. The amended text for new Special Provision 235 as proposed in document -/R.400 was adopted with the amendment proposed by Germany (see annex 3).

Document ST/SG/AC.10/R.342 (secretariat)

63. On a question raised by the secretariat (page 28 of the English version of the document), it was confirmed that UN 0495 (Propellant, liquid) should not be listed in table 4.3 as a secondary explosive, but that UN 0160 and 0161 (Powder, smokeless) should remain listed as secondary explosives (see annex 1).

64. The observer from Belgium suggested that 4-Nitrosophenol (page 73 of document -/R.342) should be assigned an explosive subsidiary risk label. As this suggestion would imply reclassification of 4-Nitrosophenol as a type B self-reactive substance rather than a type D one, he was invited to raise the question at the next Sub-Committee session. The Committee noted that the test report provided by the observer from Belgium related to 1,4-Dinitrosophenol but not to 4-Nitrosophenol.

(d) **Packagings and IBCs**

Document ST/SG/AC.10/R.351 (Belgium)

65. The editorial change proposed by the observer from Belgium was not adopted.

Documents ST/SG/AC.10/R.352 (Belgium) and ST/SG/AC.10/R.387 (ICDR)

66. The observer from Belgium withdrew his proposal on editorial changes to paragraphs 9.5.1 and 9.5.2 in the light of the comments and proposals made by ICDR in document -/R.387 which were agreed. The new texts for paragraphs 9.5.2, 9.5.2.1, 9.5.2.2 and 9.5.2.3 are reproduced in annex 5.

Remanufactured drums

67. In an informal paper, the observer from Belgium expressed concern over the new provisions for remanufactured drums, as the manufacturing of drums under the definition of paragraphs 9.2.1 (ii) and (iii) would not deal with fully homogenous groups of drums and he therefore felt that the definition of the design type in 9.7.1.2 could not be applied to remanufactured drums. Furthermore he felt that drums that were produced as a UN type from a non UN type undergo essentially a change of marking and were consequently subject to the same requirements that applied to a new drum.

68. The expert from Italy, recalling his opposition during the last biennium to the proposals concerning remanufactured packagings, expressed the view that the recurrent proposals for revising the newly developed provisions justified his concern.

69. The proposal by the observer from Belgium to revise the definitions in 9.2.1 was supported by the expert from the Netherlands, but was rejected by a large majority. Another proposal to identify remanufactured drums by the letters "TR" was also rejected as it was not possible in practice to differentiate a new drum from a remanufactured drum.

Document ST/SG/AC.10/R.365 (HMAC)

70. The proposal to replace the section 9.7.8 on test reports by a paragraph leaving the competent authority to decide on the information to be provided was rejected as the Committee considered that the test reports should contain a minimum of information and that the elements of information required should be the same at the international level for all modes of transport.

Document ST/SG/AC.10/R.405 (United Kingdom)

71. The proposal to require a test report for IBCs on the same model as for packaging was adopted (see annex 5).

Document ST/SG/AC.10/R.367 (HMAC)

72. The proposal to amend the provisions for leakproofness testing of IBCs on the basis of similar amendments adopted for packagings was adopted (see annex 5).

Document ST/SG/AC.10/R.370 (Netherlands)

73. The proposal to delete the newly developed definition of "Water-resistant" in paragraph 9.2.1 (see document -/R.342) was adopted, as test series on the basis of the Cobb test had shown that the criterion of an absorption value of 155g/m^2 did not allow distinction between 5M1 and 5M2 bags.

Documents ST/SG/AC.10/R.403 and ST/SG/AC.10/R.406 (United Kingdom)

74. The proposed editorial changes to Chapters 9 and 16 were adopted (see annex 5).

Document ST/SG/AC.10/R.404 (United Kingdom)

75. The proposal to amend the definition of reused packagings in 9.2.1 was adopted (see annex 5).

Document ST/SG/AC.10/R.425 (United States)

76. The proposal to clarify paragraph 9.7.1.7 (f) was adopted (see annex 5).

Document ST/SG/AC.10/R.430 (IMO)

77. The Committee of Experts took note of the view taken by the Editorial and Technical Group of the IMO Sub-Committee on the Carriage of Dangerous Goods (CDG) that it could not decide to delete the lower limit (250 litres) in the definition of IBCs in the IMDG Code without seeking formal CDG advice. The Committee of Experts unanimously rejected this limitation, as there was no safety reason for not allowing the carriage by sea of dangerous goods in IBCs of a capacity less than 250 litres. IBCs of a capacity less than 250 litres were used in practice, and if this lower limit was to be maintained in Amendment 27, there would be extra burdens for the administrations for granting exemptions and concluding bilateral agreements. Therefore the Committee invited the representative of IMO to raise the question at the January 1993 session of the Editorial and Technical Group which could submit the case to the IMO Maritime Safety

Committee (MSC). Otherwise the secretariat could consider the possibility of submitting a proposal directly to MSC.

Document ST/SG/AC.10/R.431 (paragraph 1)(IMO)

78. The Committee agreed that the question of the development of criteria for the hermetic sealing of receptacles, packages and IBCs could be addressed in the next biennium if proposals could be expected from experts. The expert from Germany indicated that he would prepare suitable submissions.

Preconditioning packagings for drop testing

79. On a proposal by SEFA, the Committee agreed that textile bags with inner plastics liner, woven plastics bags and plastics film bags should be added in the list of packagings which should be preconditioned at a temperature of -18°C before the drop test (see annex 5). It was recognized that packagings which have already been certified need not be retested.

Document ST/SG/AC.10/R.399 (Secretariat/FEA)

80. In a letter addressed to the Committee, FEA expressed concern over the decision of the Sub-Committee to replace the reference temperature of 50°C by 55°C in paragraph 9.8 for the leakproofness test for aerosol dispensers and small receptacles for gas, as the reference temperature used for all aerosol dispensers manufactured in 35 European and African countries was 50°C. This change would affect an industry collectively representing the largest manufacturers of aerosols in the world supplying the largest consumer market.

81. The question had been debated at length at previous Sub-Committee sessions and there had been a consensus on the temperature of 55°C. However the Committee, noting that there was a link in Europe between the reference temperature of 50°C and the degree of filling, adopted by a large majority a compromise solution proposed by the expert from Italy for a reference temperature of 55°C or of 50°C if the liquid phase does not exceed 95% of the capacity of the receptacle at 50°C (see annex 5).

82. The expert from Canada expressed concern at that compromise solution as it implied that aerosols filled with a powder and compressed gas would have to be tested at the 50°C reference temperature.

(e) Division 6.2 - Infectious substances

Documents ST/SG/AC.10/R.359 (Secretariat); ST/SG/AC.10/R.369 (HMAC); ST/SG/AC.10/R.389 (CEFIC); ST/SG/AC.10/R.409 (United Kingdom); ST/SG/AC.10/R.421 (United Kingdom); ST/SG/AC.10/R.432 (IMO)

83. The Committee considered the new text for Division 6.2 on the basis of the document prepared by the secretariat (-/R.359). This text, as modified by the Committee in accordance with decisions listed below, is reproduced in annex 6.

84. The proposal by HMAC (-/R.369) for a new section 6.14.6 allowing certain variations in the number and type of primary receptacles placed in the intermediate packaging of an infectious substance package, based on the principles of paragraph 9.7.1.6, was adopted.

85. The proposals by CEFIC (-/R.389) to amend the definitions for biological products and diagnostic specimens were adopted.

86. The proposals by the expert from the United Kingdom on paragraphs 2, 3, 4, 6, 7, 8 and 10 of document -/R.409 were adopted. The proposal for a stacking test as recommended in Chapter 9 was opposed by the expert from the United States and was not considered necessary after a majority vote.

87. The proposal by the expert from the United Kingdon in document -/R.421 to delete special provisions 124 and 125 was adopted.

88. The Committee took note of the decision by IMO to include an entry for UN 3291 in the IMDG Code, with a provision corresponding to paragraph 6.9 (f).

89. The Committee agreed that the reference to animals should be kept in the definitions of infectious substances.

90. An oral proposal by the expert from Sweden to delete, in paragraph 6.9 (f), the reference to the case where there is a relatively low probability that infectious substances are present, was not adopted as it was agreed that when this probability is not low, the wastes should be treated differently.

91. The expert from Canada drew the attention of the Committe to work initiated by the European Standardization Committee (CEN) (CEN/TC 140) on in vitro diagnostic systems/transport packages for medical and biological specimens. The draft standard includes definitions conflicting with those of the Recommendations, packagings not meeting the provisions of Chapter 6, and a different system of labelling. All delegations represented in CEN were invited to consult at a national level, and the UN/ECE secretariat was invited to raise formally the question of duplication of work with DG VII of the Commission of the European Communities.

(f) Listing and classification

Document ST/SG/AC.10/C.3/R.312 (Germany)

92. The expert from Germany submitted physical and chemical data on UN 1062 METHYL BROMIDE, substantiating the flammable properties of that substance according to the criteria for flammable gases, and the addition of a flammable gas subsidiary risk label as proposed by IMO in document ST/SG/AC.10/C.3/R.153 and the expert from the United Kingdom in document ST/SG/AC.10/C.3/R.213. The representative of HMAC considered that methyl bromide exhibits a flammable hazard only under extreme fire conditions and, on a proposal of the expert from the United States, it was decided to apply a revised special provision 23 to UN 1062 rather than to require a subsidiary risk label (see annex 3).

Document ST/SG/AC.10/C.3/R.317 and Corr.1 (United States)

93. The expert from the United States proposed to delete the entry for UN 1350, SULPHUR, as the test data according to Chapter 14 did not confirm classification in division 4.1, and to transfer UN 2448, MOLTEN SULPHUR from division 4.1 to class 9, as

he considered that the hazard characteristics were similar to those of UN 3257, ELEVATED TEMPERATURE LIQUID, N.O.S., in class 9.

94. Several experts expressed the view that sulphur had been classified in division 4.1 on the basis of experience and that such substances, carried in large quantities, should not be reclassified retrospectively on the basis of the new criteria. After a majority vote, it was decided to retain UN 1350 in division 4.1. However, a second vote on the classification of UN 2448 showed that a majority of experts favoured a transfer of UN 2448 from division 4.1 to class 9.

95. The expert from France requested a new vote on the issue, as the decision to classify solid sulphur in division 4.1 and the molten form in class 9 was illogical. As he was supported by the expert from the United States, who felt that UN 1350 might also be classified in class 9, the two issues were put to the vote once more, with the following results:

> UN 1350 should remain in division 4.1, with a special provision exempting quantities of less than 400 kg per package as well as sulphur which has been formed to a specific shape (such as prills, granules, pellets, pastilles or flakes) (see annex 3);
> UN 2448 should also remain in division 4.1

Document ST/SG/AC.10/C.3/R.355 (Canada)

96. The expert from Canada requested the advice of the Committee on the interpretation of various test results obtained when testing the corrosivity of oxalic acid (test on dry skin, test on pre-moistened skin, metal corrosion test). The Committee did not take a decision on the subject, but various experts felt that the results obtained from the test on the pre-moistened skin should not be taken into account, and it was agreed that additional criteria might have to be developed in future with regard to metal corrosion.

Document ST/SG/AC.10/R.349 (Belgium)

97. The proposal to add the word SOLID to the name "CHLORATE AND MAGNESIUM CHLORIDE MIXTURES" was not accepted. An alternative proposal to add this word in lower case was not accepted either, although it was agreed that UN 1459 covered only solid mixtures and that aqueous solutions were covered by UN 3210.

Document ST/SG/AC.10/R.362 (Canada)

98. The Committee agreed to delete the entry for UN 1118, BRAKE FLUID, as most modern brake fluids were not flammable and possible flammable formulations could be carried under an N.O.S. entry (see annex 3).

Document ST/SG/AC.10/R.363 (Canada)

99. The proposal for a new entry "LOW BOILING POINT LIQUID, N.O.S., boiling point less than 55°C" in class 9 to cover certain liquid chlorofluorocarbons was not adopted, as the sole concept of boiling point less than 55°C was not considered an appropriate criterion for classifying a substance as dangerous.

Document ST/SG/AC.10/R.364 (Canada)

100. The Committee confirmed that subsidiary risk 8 should be added to UN 2359, DIALLYLAMINE, and agreed that subsidiary risk 6.1 should also be added (see annex 3).

Document ST/SG/AC.10/R.374 (OCTI/ECE)

101. This document had been prepared in response to the invitation of the Sub-Committee to the representative of OCTI to prepare a paper on the question of solutions and mixtures containing both organic and inorganic substances (document ST/SG/AC.10/C.3/12, paragraph 103). The Chairman of the RID/ADR Joint Meeting explained that such solutions or mixtures containing substances of more than one class or division should be classified according to paragraph 1.44 and the table of precedence of hazards, i.e. if the component that takes precedence is organic, the mixture or solution should be classified under an N.O.S. entry for organic compounds. In the case of a mixture or solution of organic and inorganic substances of one class or division, the mixture or solution should be classified according to the component presenting the predominant danger. If there is no predominent danger (rare cases), it should be the responsibility of the consignor to choose the appropriate N.O.S. entry. In the opinion of the RID/ADR Joint Meeting, these principles are adequately addressed in Chapter 1 and no addition to the Recommendations was proposed.

102. The expert from the United States underlined the difficulties experienced in his country with the implementation of the two new entries UN 1325, FLAMMABLE SOLID, ORGANIC, N.O.S., and UN 3178, FLAMMABLE SOLID, INORGANIC, N.O.S. through the ICAO Technical Instructions, and expressed the wish that there would be no further differentiation between organic and inorganic substances in future. The Chairman of the RID/ADR Joint Meeting said that all possible cases had now been covered for RID and ADR and that there would be no more proposals from the Joint Meeting.

Document ST/SG/AC.10/R.410 (United Kingdom)

103. The first proposal relating to the reference to the percentage of hydrazine in the entries for UN 2029 and UN 2030 was not adopted.

104. The proposal to use the IUPAC name for UN 2817 as for UN 1721, UN 1740, UN 1811 and UN 2439 was adopted.

105. The third proposal relating to the addition of special provision 223 to UN Nos. 1386, 1613, 1802, 2626 and 3294 was withdrawn.

106. The proposal to replace packing group II by special provision 184 for UN 2047 was adopted, and it was agreed that the name should be listed in plural.

Document ST/SG/AC.10/R.419 (CEFIC)

107. Contrary to the decision taken by the Sub-Committee to combine the two entries UN 2022 and UN 2076 in one single entry, UN 2076 to read "CRESOLS and CRESYLIC ACID", it was agreed to retain each entry separately, i.e. "UN 2022 CRESYLIC ACID" and "UN 2076 CRESOLS". It was confirmed that subsidiary risk 8 should be added to both entries (see annex 3).

Petroleum products

Documents ST/SG/AC.10/R. 372 (OCTI/ECE); ST/SG/AC.10/R.426 (United States), ST/SG/AC.10/R.436 (CEFIC)

108. After careful consideration of the proposal made by the secretariats of OCTI and UN/ECE on behalf of the RID/ADR Joint Meeting for reducing and rationalizing the entries for petroleum products, the comments made by the expert from the United States and those made by CEFIC, as well as those made by the IMO Sub-Committee on the Carriage of Dangerous Goods at its 44th session and by the ICAO Dangerous Goods Panel, the Committee reached a consensus on the revision of entries related to petroleum products (see annex 3).

109. The name for UN 1203 was amended to read "MOTOR SPIRIT or GASOLINE or PETROL"; Packing Group II was maintained and a special provision was added to clarify that motor spirits should be assigned to this entry regardless of variations in volatility.

110. The entry for UN 1223 KEROSENE, was maintained, but special provision 102 was replaced by a reference to Packing Group III as the flashpoint range of this product was considered to be above 23°C c.c.

111. The name for UN 1202 was amended to GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT, and special provision 102 was replaced by a reference to Packing Group III.

112. The entry UN 1267 PETROLEUM CRUDE OIL was maintained with special provision 102 as it was recognised that the range of flashpoint was very wide depending on the nature and volatility of components in the crude oil.

113. The entry UN 1863 FUEL, AVIATION, TURBINE ENGINE was maintained without any modification (special provision 102). It was believed that this fuel had flashpoint and vapour pressure characteristics different from those of kerosene. The representative of CEFIC offered to consult the European industry on the subject.

114. The Committee agreed to retain the entry UN 1268 and to amend the name to read "PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.". This entry should not bear the asterisk.

115. It was also agreed to add a new entry, UN 3295 HYDROCARBONS, LIQUID, N.O.S., with no asterisk, with Special Provision 102 and an entry in Table 12.2, to cover all liquid hydrocarbons not mentioned by name in the Recommendations which are the result of chemical synthesis rather than petroleum distillation or refining.

116. It was decided to delete UN 1255 NAPHTHA PETROLEUM, UN 1256 NAPHTHA SOLVENT, UN 1270 PETROLEUM OIL, UN 1271 PETROLEUM SPIRIT and UN 2553 NAPHTHA, but to insert a reference in lower case in the index for those products to UN 1268. Similarly UN 1257 NATURAL GASOLINE and UN 1864 GAS DRIPS, HYDROCARBON were deleted but references to UN 1203 and UN 3295 respectively were inserted in the index.

Document ST/SG/AC.10/R.428 (IMO)

117. In response to the IMO request, the Committee developed an appropriate text for inclusion in Chapters 1 and 13 and a warning sign to be set out in Chapter 13 for cargo transport units under fumigation (see annexes 1 and 4).

Document ST/SG/AC.10/R.440 (ICAO)

118. The suggestion to amend the name of UN 2857 to read "REFRIGERATING MACHINES containing non-flammable, non-toxic, liquefied gas or ammonia solutions (UN 2073)" was adopted (see annex 3). It was also agreed not to adopt the draft amendment to special provision 119 as listed in document -/R.342, as ICAO would have to establish typical quantities for ammonia solutions in refrigerating machines to be regarded as non-dangerous.

(g) Consignment procedures

Document ST/SG/AC.10/C.3/R.223 (IMO)

119. Document -/C.3/R.223 had been carried forward as a background document on the IMO requirements for a dangerous goods declaration, container packing certificate and vehicle declarations. As new provisions had been developed in Chapter 13 for container packing certificates, it was agreed that the document need not be retained on the agenda for the next session of the Sub-Committee.

120. The Committee noted that the IMO Sub-Committee on the Carriage of Dangerous Goods had decided to keep the requirement that "drums should be stored in an upright position, unless otherwise authorized by the competent authority" in the packing certificate. However, the Committee recalled that this question had been debated at length at the sixth session of the Sub-Committee, and it had been concluded that this requirement was adequately covered by 13.6.6. (d) (all goods have been properly loaded and, when necessary, adequately braced with securing material to suit the mode(s) of transport for the intended journey) (see document -/C.3/12, paragraph 147). Therefore it was decided not to insert this requirement.

Document ST/SG/AC.10/C.3/R.224 (Federation of Russia)

121. The expert from the Federation of Russia considered that this document had been adequately discussed at the sixth session of the Sub-Committee and did not need further consideration. The expert from the United States circulated a list of substances recognized as toxic in the United States Regulations on the basis of human experience, although acute toxicity test data were either not available or did not support classification.

122. The Committee noted that the question of such substances classified on the basis of experience would have to be considered in connection with the question of the global harmonization of classification systems.

Document ST/SG/AC.10/C.3/R.305 (Sweden)

123. The Committee decided not to take any decision on the question of the precedence of risk for affixing a single placard on transport units carrying goods of different divisions of Class 1. Consequently, the square brackets were deleted around paragraph 13.7.1.2 (see document -/R.342) and the words "in the order [...]" were deleted (see annex 4).

124. The expert from the United States pointed out that the word "may" in paragraph 13.7.1.2 should not be used in regulatory texts, but it was agreed that the alternative use of "need" or "should" should be decided at the national level or by the international bodies responsible for each mode, as for reasons of security (terrorism) certain countries might prefer not to require the display of such placards.

125. The other proposals in the document were withdrawn after consideration of document ST/SG/AC.10/R.356.

Document ST/SG/AC.10/R.356 (United States)

126. The expert from the United States orally proposed modifications to his document, so that the proposal was :

> not to use the word "harmful" in proper shipping names and to use the word "toxic";
> delete the description "The lower half of the label may bear the inscription "HARMFUL" and "STOW AWAY FROM FOODSTUFFS"" under the label No. 6.1A in section 13.5.1;
> undertake a revision of the label applicable to division 6.1, packing group III in the future, taking into account the work carried out under the auspices of the IPCS Coordinating Group on the Harmonization of Classification Systems.

127. The representative of IMO indicated that IMO did not support the use of the word "HARMFUL" as this word had a different meaning in the context of the MARPOL Convention (Marine pollutant).

128. The representative of ICAO informed the Committee that the ICAO Dangerous Goods Panel did not support the use of the word HARMFUL in the proper shipping names and would agree to the deletion of label No.6.1A.

129. The Committee was informed by a letter from ICS that that organization did not support the use of the word harmful and would support the deletion of label No. 6.1A.

130. The representative of OCTI, as Chairman of the RID/ADR Joint Meeting, recalled that the Joint Meeting had proposed the addition of the word "harmful" to the proper shipping name only for the purpose of consistency between the name and the label. Therefore he expressed the view that, if the word "toxic" should be used instead of "harmful", the label No. 6.1A should be deleted for the same purpose of consistency.

131. The expert from Italy considered that label No. 6.1A should be retained as long as work continued at interagency level for harmonizing labelling systems.

132. The representative of HMAC did not favour the deletion of label No. 6.1A as there was a different perception of the existing toxic and harmful labels in public opinion, and the use of the toxic label for substances of division 6.1, packing group III, would have important implications at that level.

133. The representative of CEFIC mentioned that the pictogram "X" was used in the European legislation for packing group III substances, and was of the view that no decision should be taken until further progress had been made at interagency level.

134. After a long debate the oral proposal by the United States was rejected by a vote of 9 to 3. The counter proposal to use consistently the word "TOXIC" throughout, to delete label No. 6.1A and to apply label No. 6.1 to all substances of division 6.1, including those of packing group III, was adopted by a majority vote of 10 to 3 (see annex 4).

135. There was no support for the proposal by the expert from the United States to differentiate toxic labels by including the packing group number on the label. The expert from the United States drew the attention of the Committee to the fact that there is a difference in the labels for Class 7. He further mentioned that the transport of substances required to bear the label No.6.1 in his country was severely restricted in regard to transport with foodstuffs, and that the decision to extend the application of that label to packing group III substances would have dramatic trade consequences.

Documents ST/SG/AC.10/R.345 (Secretariat/Netherlands);
ST/SG/AC.10/C.3/R.347 (United States)
(Pictogram for elevated temperature substances)

136. The Committee gave preference to the pictogram in document -/R.345 for a placard to be affixed to tanks carrying elevated temperature substances, with modifications (thermometer, partially filled with mercury, no graduations and no "°C" or "°F", red and white). A new paragraph 13.7.7 was developed on the basis of the text proposed in document -/C.3/R.347 (see annex 4).

137. The Committee requested the secretariat to inform ISO about the adoption of this pictogram.

Document ST/SG/AC.10/R.373 (OCTI/ECE)

138. The proposal on behalf of the RID/ADR Joint Meeting to introduce a new paragraph 13.8.9 for requiring the qualifying word "MOLTEN" in the proper shipping name for substances carried in the molten state was agreed (see annex 4).

Document ST/SG/AC.10/R.377 (OCTI/ECE)

139. The proposal on behalf of the RID/ADR Joint Meeting to add an asterisk to all specific pesticide entries in Chapter 2 and to revise paragraph 13.8.5 was adopted (see annexes 3 and 4).

Document ST/SG/AC.10/R.394 (Secretariat)

140. The Committee took note of the report on the outcome of the forty-sixth session of the Meeting of Experts on Procedures and Documentation (GE.2) of the ECE Working Party on Facilitation of International Trade Procedures (TRADE/WP.4). It noted in particular the establishment of an ad hoc group on the trade facilitation aspects of the transport of dangerous goods, in which the secretariat participated. The work of the ad hoc group aimed at revising Recommendation No. 11 of the Working Party TRADE/WP.4 on the documentary aspects of the transport of dangerous goods to bring it up-to-date with current dangerous goods legislation, at carrying out research into the feasibility of having a single set of procedures and documentation for dangerous goods consignments irrespective of the mode or combination of modes of transport, and at assisting in developing EDIFACT messages relevant to the transport of dangerous goods.

141. The secretariat was invited to remain actively involved and to report regularly on the progress made. Organizations concerned with the practical documentary aspects of the transport of dangerous goods were invited to contact the secretariat if they wished to participate in the work.

Document ST/SG/AC.10/R.433 (Sections 2, 3, and 4) (IMO)

142. The Committee took note of the decisions taken by the IMO Sub-Committee on the Carriage of Dangerous Goods (CDG), but did not take action as the requirement to have labels reduced in size visible from a distance was in line with the aim described in paragraph 13.3.1 (a), and the provision requiring semi-trailers to be marked and labelled at each end was compatible with paragraph 13.7.3. The question of allowing the class description to appear in addition to the class number might be pursued in the future.

Document ST/SG/AC.10/R.371 (Secretariat)

143. The consolidated text of Chapter 13 was adopted, subject to the new modifications adopted by the Committee. The final revised Chapter 13 is reproduced in annex 4.

(h) Other matters

Document ST/SG/AC.10/R.350 (Belgium)

144. The proposal to amend the definition of shell in paragraph 12.2.3 to exclude the service equipment was adopted (see annex 3).

Document ST/SG/AC.10/R.375 (OCTI/ECE)

145. The proposal on behalf of the RID/ADR Joint Meeting to amend paragraph 1.10 to specify, inter alia, that the requirement to apply a test was limited to viscous substances for which a specific melting point cannot be determined, was adopted (see annex 1).

Document ST/SG/AC.10/R.379 (HMAC)

146. The proposal to include an entry in table 12.2 for the carriage in tanks of methanesulphonyl chloride was agreed, but the conditions were aligned on those agreed by IMO (see annex 3).

ST/SG/AC.10/R.407 (United Kingdom)

147. The editorial comments on document -/R.342 were agreed, except for those concerning pages 5, 23, 25 and 29 and with minor modifications. It was also agreed that special provision 167 could be deleted from chapter 3 as it did not apply any longer to any entry (see annexes 1, 3 and 4).

Documents ST/SG/AC.10/R.357 (United States); ST/SG/AC.10/R.368 (HMAC); ST/SG/AC.10/R.390 (CEFIC) (Corrosivity criteria)

148. As there was agreement between the experts from the United States, HMAC and CEFIC for withdrawing the proposed new criteria relating to eye damage, the Committee agreed to delete the text left in square brackets in paragraphs 8.2 and 8.4 (see document -/R.342) (see annex 1).

149. On the basis of the comments made by the expert from the United States, the Committee did not adopt, after an equally divided vote, the draft new criteria (time exposure) for Packing Groups I, II and III prepared by the Sub-Committee but agreed to refer to full thickness destruction of the skin rather than to visible necrosis (see annex 1).

Lithium batteries
Documents ST/SG/AC.10/C.3/12/Add.1, annex 6; ST/SG/AC.10/R.422 (Secretariat)

150. The new section on test and criteria for lithium batteries to be included in the Manual of Tests and Critera was adopted together with the corrections proposed by the secretariat in document -/R.422 and other editorial comments made by the expert from the United States. This new section is reproduced in full in annex 7. The Committee noted that an ISO standard on that subject was in preparation.

Document ST/SG/AC.10/R.434 (IMO)

151. The Committee noted that IMO had not included an entry for corrosive paints (UN 3066) in the IMDG Code.

152. The Committee agreed to add a new note 14, as developed by IMO, against the entry for UN 2531, Methacrylic acid in table 12.2, to the effect that the temperature should be maintained between 18°C and 40°C and that tanks containing solidified methacrylic acid should not be reheated during transport (see annex 3).

OTHER OUTSTANDING OR NEW PROPOSALS TO AMEND THE UN RECOMMENDATIONS

(a) Criteria for flammable liquids - Testing for combustibility

Documents: ST/SG/AC.10/C.3/R.63 (Australia);ST/SG/AC.10/C.3/R.212 (United Kingdom)
ST/SG/AC.10/C.3/R.251 and Add.1 (Germany)
ST/SG/AC.10/C.3/R.359 (Secretariat); ST/SG/AC.10/R.384 (Germany)

153. The subject of combustibility testing had been raised by the observer from Australia in 1989 in document -/C.3/R.63, and had been discussed at the fifth session of the Sub-Committee (see document ST/SG/AC.10/C.3/10, paragraphs 64 to 72). At the fifth session it had been agreed to postpone the discussion pending the outcome of the work being carried out by ISO/TC 35/SC 9/WG 21 (see document ST/SG/AC.10/C.3/12, paragraphs 87 to 89).

154. The proposal by Germany in document -/R.384 took account of all proposals made previously and of the ISO work. The expert from Germany proposed new modifications corresponding to the final consensus reached by ISO/TC 35/SC 9/WG21. The proposal aimed at exempting from the Recommendations liquids with a flash-point of more than 35°C which do not sustain combustion under defined test conditions, if their fire point according to ISO 2592 is greater than 100°C or if they are miscible solutions with a water content of more than 90% by mass. The proposed limitation to quantities less than 450 litres was removed, and the exemption would not be applicable to liquids offered for transport at temperatures at or above their flash-point.

155. The expert from the United States proposed the use of a temperature of 38°C for the exempting flash-point limit value, rather than 35°C, as in his country this temperature (38°C/100°F) was used. The expert from Italy proposed to lower the limit to 23°C as it would correspond to Packing Group III substances.

156. The expert from Germany recalled that the combustibility tests did not give adequate information on the explosiveness of the vapour phase and therefore experimental work, reflecting real conditions of transport, had been carried out in his country. This work showed that there was a risk of explosion for liquids with a flash-point between 23°C and 35°C, and that the temperature of 35°C was a suitable cut-off limit.

157. The proposal in document -/R.384, as modified, was adopted by a consensus of all experts present except for one abstention. It was agreed to include in the Recommendations the method of testing for combustibility based on the technical report ISO TR 9038, as the corresponding ISO standard had not yet been officially adopted by ISO (see annex 1).

(b) Listing and classification

Document ST/SG/AC.10/C.3/R.323 and Add.1 (United States)

158. The Committee agreed to reclassify UN 1143 CROTONALDEHYDE, UN 2382 DIMETHYLHYDRAZINE, symmetrical, UN 2482 n-PROPYL ISOCYANATE, UN 2484 tert-BUTYL ISOCYANATE, UN 2485 n-BUTYL ISOCYANATE, UN 2606 METHYL ORTHOSILICATE in Division 6.1, Packing Group I, and to amend the entries in

table 12.2 accordingly (see annex 3). The reclassification proposal for UN 1510 TETRANITROMETHANE was not adopted.

Document ST/SG/AC.10/R.360 (United States)

159. The proposal to amend the references to metam-sodium was adopted (see annex 3).

Document ST/SG/AC.10/R.361 (Canada)

160. The proposal to amend the entry UN 3170 ALUMINIUM DROSS was adopted with editorial changes; the name of the entry should read ALUMINIUM PROCESSING BY-PRODUCTS (see annex 3).

Document ST/SG/AC.10/R.378 (Secretariat)

161. The Committee was of the view that the correct IUPAC English name for UN 2785 was 4-THIAPENTANAL (see annex 3).

Document ST/SG/AC.10/R. 380, -/R. 381 and -/R.386 (Germany)

162. The proposals to amend the entries for UN 2445 (Lithium alkyls), UN 1415 (Lithium) and UN 1402 (Calcium carbide) were adopted, with a change from special provision 130 to 212 for UN 1402 (see annex 3).

Document ST/SG/AC.10/R.382 (Germany)

163. The proposal to amend special provision 123 so that mercury and gallium may be considered as dangerous for all modes of transport was adopted (see annex 3).

Document ST/SG/AC.10/R.392 (Germany)

164. The proposal for a new entry UN 3296 HEPTAFLUOROPROPANE (R 227) was adopted (see annex 3).

Document ST/SG/AC.10/R.398 (Sweden)

165. This document provided information on the LD_{50} value for copper sulphate, and advice was requested from the Committee for classification in RID/ADR. The Committee was of the view that, according to the LD_{50} value of 300 mg/kg (oral), copper sulphate was not subject to the Recommendations, but if, as a result of global harmonization, the upper limit value for oral toxicity of solids was raised from 200 to 500 mg/kg, it should remain classified in RID/ADR as dangerous in transport.

166. The Committee also pointed out that the LD_{50} values are closely linked to the specific forms of copper sulphate (Copper I or Copper II sulphate, hydrate or pentahydrate etc.), and therefore the value of 300 mg/kg was not necessarily representative of all possible forms.

Document ST/SG/AC.10/R.401 (United States)

167. The Committee agreed to include the following new entries in Chapter 2: UN 3297 ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE, with not more than 8.8% ethylene oxide, UN 3298 ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE, with not more than 7.9% ethylene oxide, UN 3299 ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE, with not more than 5.6% ethylene oxide (see annex 3).

Document ST/SG/AC.10/R.402 (United States)

168. The Committee agreed to reclassify UN 3070 ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE with not more than 12% ethylene oxide from division 2.3 to division 2.2 and to raise the percentage of ethylene oxide to 12.5% (see annex 3).

Document ST/SG/AC.10/R.408 (United States)

169. The Committee agreed to reclassify the entries for UN 1041 and UN 1952 to divisions 2.1 and 2.2 respectively and to add a new entry UN 3300 ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide in division 2.3 (see annex 3).

Document ST/SG/AC.10/R.416 (France)

170. The proposals in paragraphs 1, 2, 3, 4, 5 and 7 were agreed with corrections (UN 1564: replace special provision 44 by 184, UN 1693, replace special provision 44 by 212 instead of 130, no addition of special provision 109 needed in either case) (see annex 3).

171. For paragraph 6, it had already been agreed that the IUPAC English name should be 4-THIAPENTANAL rather than 3-(METHYLTHIO)PROPANAL. (See paragraph 161).

172. The proposal (in paragraph 8) to split the entry for UN 3243 SOLIDS CONTAINING POISONOUS LIQUIDS, N.O.S. into two entries differentiating between organic and inorganic liquids was not adopted, because of problems of enforcement as described by the expert from the United States (see also paragraph 102), but the word "POISONOUS" should be changed to "TOXIC".

Document ST/SG/AC.10/R.417 (France)

173. The Committee welcomed in general the work done by the expert from France on the introduction of CAS numbers and IUPAC names in the Recommendations for ease of reference. Nevertheless certain experts felt that it would be time consuming to check all references and to extend the exercise to all classes of dangerous goods. As the examples shown in the document were available only in French and referred only to Class 3, and as the expert from France had offered to cover all classes, the Committee agreed that the question should be considered at the next session of the Sub-Committee, so that the expert from France could be advised whether this work should be pursued, and if so in which form.

Document ST/SG/AC.10/R.423 (United States)

174. The Committee agreed to reinstate in class 9 UN 1990 BENZALDEHYDE, which had been excluded in the past from class 3 because it did not meet the flammability criteria, and that it should be considered as dangerous for all modes of transport. It was also agreed that a certain number of such substances listed in class 9 of the ICAO Technical Instructions might have to be considered in future for inclusion in the Recommendations.

Document ST/SG/AC.10/R.424 (United States)

175. The Committee agreed to delete UN 2860 VANADIUM TRIOXIDE from Chapter 2 of the Recommendations (see annex 3).

Document ST/SG/AC.10/R.427 (United Kingdom)

176. The proposal to amend the table 1.1 of precedence of hazards to take account of liquid self-heating substances of division 4.2 with a corrosive subsidiary risk was adopted. It was also agreed to add a new entry in Chapter 2 for UN 3301 CORROSIVE LIQUID, SELF-HEATING, N.O.S. (see annexes 1 and 3).

Document ST/SG/AC.10/R.437 (ICAO)

177. The Committee agreed to replace Special Provision 132 applicable to UN 3241 2-BROMO-2-NITROPROPANE-1,3-DIOL by a new Special Provision 246 specifying that the substance should be packed in accordance with packing method OP6B. The second sentence of Special Provision 132 was retained (see annex 3).

Document ST/SG/AC.10/R.438 (ICAO)

178. The Committee agreed to assign Special Provision 130 rather than 102 to those pesticide entries classified in Class 3, as according to the description, these pesticide preparations have a flash-point less than 23°C and therefore cannot be considered as non-dangerous under any circumstances (see annex 3).

Document ST/SG/AC.10/R.439 (ICAO)

179. The proposal to replace the words "non-dangerous" by "not subject to these Recommendations" was adopted (see annex 3).

(c) Miscellaneous outstanding or new proposals

180. An informal proposal by the expert from the United States to add a new entry for 2,4-Dichlorophenol in Class 8 was withdrawn.

181. An informal proposal by the expert from Norway to add a new Special Provision against UN 3065 to allow the carriage of alcoholic beverages (24% to 70% alcohol by volume) in wooden casks in special conditions was adopted (see annex 3).

182. The expert from the United States informed the Committee that more than two million tons of vinyl chloride monomer are transported annually in his country, safely and routinely, without the addition of a chemical inhibitor. Polymerization is prevented by the means of stabilization (e.g. degassing to remove dissolved oxygen and in inverting the air space in the package, or by refrigeration). The Committee decided to amend the name for UN 1086 accordingly, i.e. to read "VINYL CHLORIDE, INHIBITED or VINYL CHLORIDE STABILIZED" rather than to delete the qualification"INHIBITED" as it was deemed important to mention in the proper shipping name what measures had been taken to prevent polymerization (see annex 3).

Document ST/SG/AC.10/C.3/R.273 (ICAO)

183. The proposal to list certain generic designations in the singular rather than in the plural to avoid confusion in the transport documents was adopted (see annex 3).

Document ST/SG/AC.10/C.3/R.314 (Germany)

184. The Committee decided that the table of principles to assign proper shipping names for N.O.S. entries annexed to document -/C.3/R.314 should be annexed to this report as agreed principles for future reference purposes (see annex 8).

Document ST/SG/AC.10/R.346/Rev.1 (China)

185. The Committee decided that the subject of segregation of dangerous goods should be addressed in the next biennium only and the expert from China offered to prepare a new revised document for the next session of the Sub-Committee.

Document ST/SG/AC.10/R.353 (ICAO)

186. The proposal to delete the asterisk from division 5.1 specific entries was adopted, as well as the proposal to reflect the asterisk in Appendix A as in Chapter 2 (see annex 3).

Document ST/SG/AC.10/R.376 (OCTI/ECE)

187. The proposal to exempt alcoholic beverages containing more than 24% but not more than 70% alcohol by volume when carried in receptacles with a capacity of 250 litres or less, as already applied in the IMDG Code and RID/ADR was opposed by the expert from the United States because these substances cause the same danger as other substances in Class 3. Nevertheless the proposal was adopted by a large majority but the existing reference to Packing Group III was retained. It was agreed that the exemption should not apply to air transport (see annex 3).

Document ST/SG/AC.10/R.388 (CEFIC)

188. The proposal to delete footnote d) in Chapter 15 (Dangerous goods in limited quantities), which requires that glass, porcelain or stoneware inner packagings should be enclosed in a compatible and rigid intermediate packaging, on the grounds that the meaning of "intermediate packaging" was not clear (no definition), was not adopted.

189. The Committee noted that IMO had undertaken a revision of Section 18 of the General Introduction to the IMDG Code, but considered that the revision of Chapter 15 of the Recommendations could only be done in the next biennium if deemed necessary (see also paragraphs 35 and 36).

Document ST/SG/AC.10/R.347 and Corr.1 (China)

190. This document on the possible division of Class 8 into three divisions 8.1 (Acidic substances), 8.2 (Basic substances) and 8.3 (other corrosive substances) had informally been discussed at the sixth session of the Sub-Committee (see document ST/SG/AC.10/C.3/12, paragraph 86). The expert from China regretted that an updated version, submitted in time, had not been circulated prior to the current session. The views expressed at the Sub-Committee session were reiterated: The benefits in dividing Class 8 for stowage and segregation purposes might be limited if the label remained the same and this question should be considered in connection with the question of generic entries in the future. The divisions proposed by China could be compared with the groups of substances to be included in a systematic list of dangerous goods as proposed by the expert from the Netherlands in document ST/SG/AC.10/R.358. The secretariat was requested to issue the new updated version of the Chinese proposal as a new document for the seventh session of the Sub-Committee.

Document ST/SG/AC.10/R.358 (Netherlands)

191. The proposal was for the introduction of a systematic list of dangerous goods in the Recommendations, i.e. to expand the existing Appendix A (list of generic and N.O.S. entries) to a complete list of dangerous goods grouped under generic headings (such as flammable compressed gases). The various groups would include dangerous goods with similar dangerous properties and for which transport conditions and emergency response are similar.

192. The expert from the United States considered that there were other subjects to be treated by the Sub-Committee which should take priority over the development of a systematic list. If the principle was to be agreed, the work should be done intersessionally by volunteers and should not become subject to controversial discussions during Sub-Committee sessions. He also drew the attention to the extra burden for the secretariat, the expected large increase in the number of pages of the Recommendations and the consequential financial implications for translation and reproduction.

193. The Committee agreed by a majority vote that this work should be done and that a systematic list of dangerous goods should be included in the ninth edition of the Recommendations in addition to the existing list of Chapter 2 and of the alphabetic index.

Correction to Chapter 5

194. The Committee noted that the reference to ASTM D 3278-78 and ASTM D 23-80 in Chapter 5 as test methods used in determining the flash-point should be replaced respectively by references to ASTM D 3278-89 and ASTM D 93-90 (see annex 1).

Document ST/SG/AC.10/C.3/R.395 (Secretariat)

195. As there was a certain lack of consistency in the French version of the Recommendations with regard to the proper shipping names used for compounds, mixtures and solutions, the Committee agreed to revise those names so that they could appear in transport documents and on the packages in an order corresponding to the French language (i.e. "COMPOSES DU BARYUM, N.S.A.", rather than "BARYUM, COMPOSES DU, N.S.A.") and to add entries in lower case in the Index referring alphabetically to the constituent (i.e. "Baryum, composés du, n.s.a., voir .....") (see annex 3, French text only).

Documents ST/SG/AC.10/R.431 (paragraphs 2 and following)(IMO), ST/SG/AC.10/R.420/Rev.1 (CEFIC)

196. The Committee noted that a paragraph equivalent to paragraph 1.9.2 of the Recommendations should be included in Amendment 27 to the IMDG Code.

197. The Committee agreed to add a new entry for UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. in table 12.1, for carriage in tanks (see annex 3), as IMO had included such an entry in the appendix to subsection 13.100 of the General Introduction to the IMDG Code and these substances were carried in large quantities in tanks in Europe under RID/ADR.

198. The Committee noted that IMO had agreed to allow bottom openings for the carriage of organic peroxides of type F (UN 3109 and UN 3110) in tanks, subject to the provision of three shut-off devices, and adopted a similar proposal by CEFIC in document -/R.420/Rev.1 for UN Nos. 3109, 3110, 3119 and 3120 in table 12.2 (see annex 3). The representative of HMAC pointed out that according to the footnote to table 11.4, the carriage of such organic peroxides in IBCs with bottom openings was allowed.

PUBLICATION OF THE REVISED RECOMMENDATIONS

199. Although the next regular session of the Economic and Social Council was only scheduled for July 1993, the Committee, underlining the importance of issuing a new version of the Recommendations as soon as possible for ensuring the quickest implementation of these new Recommendations by all modes of transport in a coordinated manner, invited the secretariat to prepare the eighth revised version without delay.

200. It was agreed that an addendum to the existing Manual on Tests and Criteria (document ST/SG/AC.10/11/Rev.1) should be issued.

PROGRAMME OF WORK

201. The following programme of work has been adopted for 1993-1994:

(1) Rationalization of the Manual of Tests and Criteria (see also annex 2);

(2) Class 1 matters: revision of Chapter 10 (Special Recommendations on packing for explosives);

(3) Criteria for Division 5.1 (criteria for classification of solid and liquid oxidizing substances);

(4) Class 2 matters (including ISO work on standards for gas cylinders and quality assurance);

(5) Class 8 matters, including test methods for determining metal corrosion;

(6) Environmentally hazardous substances;

(7) Routine listing and classification, including listing of new formulations of organic peroxides and self-reactive substances;

(8) Editorial review of Chapter 3;

(9) Matters related to packagings and intermediate bulk containers;

(10) Review of Chapter 12 and the multimodal tank tables;

(11) Review of Chapter 15 (Dangerous goods in limited quantities);

(12) Segregation requirements for dangerous goods;

(13) Systematic list of entries (Extension of Appendix A);

(14) Activities of the IPCS Coordinating Group on the Harmonization of classification and labelling systems;

(15) Relations with other organizations.

202. With regard to item (8), the Committee noted that the expert from the United Kingdom would present a new document replacing document ST/SG/AC.10/R.355.

203. With regard to item (10), the question was raised whether the review of Chapter 12 was necessary and even whether this Chapter should remain in the Recommendations, as in practice tanks had to comply with the IMDG Code for sea transport, RID/ADR standards for rail and road transport in Europe and DOT regulations in North America. The expert from the United States said that the aim should be the development of UN types of tanks which would correspond to the best standards, in close cooperation with bodies concerned. He declared that the United States would harmonize their standards on the UN standards if such work could be achieved by the Committee. The Committee agreed that Chapter 12 should remain in the Recommendations and should be updated.

204. The Committee, recalling that with the exception of Class 2 in RID and ADR, all lists of substances in modal regulations would be harmonized in 1995, agreed that reclassification proposals should be limited to a minimum and would have to be well argued by good safety reasons and accompanied by full data sheets.

205. Matters relating to Class 1 should be discussed only at the July sessions of the Sub-Committee as well as at the Committee session.

206. The following documents were carried forward: ST/SG/AC.10/C.3/R.186 and Add.1, -/C.3/R.222, -/C.3/R.333, -/C.3/R. 253, ST/SG/AC.10/R.343, -/R.346/Rev.1, -/R.411, -/R.412, -/R.413, -/R.414, -/R.415 and -/R.417. The revised version of document -/R.347 should be circulated and three informal papers (INF.17, INF. 20 and INF. 28) should be officially circulated.

CALENDAR OF MEETINGS FOR THE BIENNIUM 1993-1994

207. The Committee, bearing in mind the comments made by IMO on the periodicity of amendments, and considering that the number of proposals likely to be submitted to the Sub-Committee in 1993 might decrease as a result of the improved multimodal harmonization, decided to reduce the duration of the two Sub-Committee sessions to be held in 1993 from ten to eight working days. The dates for the Committee and its Sub-Committee in the biennium are:

12 - 21 July 1993 -	Sub-Committee of Experts on the Transport of Dangerous Goods (seventh session)
22 November - 1 December 1993 -	Sub-Committee of Experts on the Transport of Dangerous Goods (eighth session)
4 - 15 July 1994 -	Sub-Committee of Experts on the Transport of Dangerous Goods (ninth session)
28 November - 7 December 1994 -	Committee of Experts on the Transport of Dangerous Goods (eighteenth session)

OTHER BUSINESS

Document ST/SG/AC.10/R.396 (Secretariat)

208. The Committee noted the information on the computerization of documents and publications (including the Recommendations on the Transport of Dangerous Goods) and the possible use of electronic data interchange for communicating with the ECE Transport Division. The Committee encouraged the secretariat to pursue the efforts towards the development of electronic mailing systems.

Document ST/SG/AC.10/R.354 (Italy)

(World Convention on the Transport of Dangerous Goods)

209. In order to facilitate the harmonization of the rules applicable to the various modes of transport of dangerous goods, the expert from Italy proposed the elaboration of a World Convention on the Transport of Dangerous Goods that would make the Recommendations legally binding internationally. The contents of the Recommendations would then be automatically adopted by modal organizations which would remain responsible for aspects

specific to their respective modes. Such a Convention would avoid duplication of efforts and lack of homogeneity.

210. The principle of the proposal was warmly supported by the experts from France and Germany. Other experts felt that the timing was not opportune, and that IMO and ICAO should be consulted on the subject.

211. The observer from Austria supported the idea of such a Convention, but pointed out that there were already two Conventions (Chicago Convention and SOLAS Convention) dealing with the transport of dangerous goods by air and sea which are applied world wide, and in his opinion, what was missing was a world wide convention for road transport, that could be based on a revised ADR.

212. The expert from the United States was opposed to the Convention because he felt that it was important that the Committee should continue to address and identify problems in a flexible way. Furthermore, elaboration of a convention would require additional resources and funding, and he was not mandated to approve or request the Council to approve extended activities on the subject.

213. The Committee finally did not support, by a large majority, the proposal by Italy for a World Convention on the Transport of Dangerous Goods.

Australian Code for the Transport of Dangerous Goods by Road and Rail

214. The Committee noted that the fifth edition of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) had been published, and comments could be sent to the **Secretary of the ACTDG Drafting Sub-Committee, Road Safety Division, Department of Transport and Communications, GPO Bp 594, CANBERRA ACT 2601**.

Participation of Morocco

215. The observer from Morocco expressed the deep interest of his Government for the work of the Committee and indicated that he intended to participate more actively in the future.

CHAIRMANSHIP

216. The Committee unanimously agreed that Mr. L. Grainger (United Kingdom) and Mr. J. Monteith (Canada) should be re-elected as Chairman and Vice-Chairman respectively of the Committee and its Sub-Committee for the next biennium.

REPORT TO THE ECONOMIC AND SOCIAL COUNCIL

217. The Committee agreed on a draft resolution for submission to the Economic and Social Council as set out in annex 9 to this report. The secretariat was requested to transmit this draft resolution to the Council together with a report on the Committee's activities and recommendations.

TRIBUTE TO MR. COX

218. The Chairman announced that Mr. J. Cox was not expected to attend future sessions of the Committee. Mr. Cox had represented ICAO for many years as Secretary of the ICAO Dangerous Goods Panel, and when he retired, he provided consultancy services to the UN/ECE secretariat for the good running of the Committee sessions. He was attending this session as a member of the United Kingdom delegation. The Chairman, joined by all experts, paid tribute to Mr. Cox for his long and distinguished service in matters related to the transport of dangerous goods.

ADOPTION OF THE REPORT

219. The Committee adopted the report on its seventeenth session and the annexes thereto.

Annex 1

Amendments to Chapters 1, 4, 5, 6 (Division 6.1 only), 8, 11, 14 and 15 of the Recommendations on the Transport of Dangerous Goods

(See document ST/SG/AC.10/19/Add.1)

Annex 2

Plan of work and time-table for rationalization of the Manual of Tests and Criteria

December 1992	**Committee** to adopt plan of work and time table; **Committee** to adopt procedure for working groups; **Committee** to agree areas where technical improvements will be considered.
January 1993	**All countries** to inform **BAM** as to who will attend international working group; **United Kingdom** to provide **BAM** with draft manual and diagrams (separate document); **Netherlands** to suggest procedure for rationalizing pressure vessel tests; **United States** to provide draft requirement for UN Gap test; **Countries** to provide oxidizer test proposals.
March 1993	**BAM** to host international working group (8 to 12 March); France to arrange concurrent oxidiser test working group.
April 1993	**All countries** to submit documents on technical improvements which were **not** agreed by BAM working group; **France** to submit report on oxidiser working group; **Germany** to submit report on test manual working group; **United Kingdom** to submit agreed text of manual.
July 1993	**Working group** to consider **Part I** of manual and related items; **Sub-Committee** to adopt agreed text.
September 1993	**All countries** to submit documents on technical improvements to **Parts II** and **III** which were **not** agreed by the BAM working group.
December 1993	**Working Group** on **Parts II** and **III** and related items; **Sub-Committee** to adopt agreed text; **Sub-Committee** to consider if further intersessional working group required.
April 1994	**United Kingdom** to submit documents on consequential amendments to the Recommendations; Any country to submit alterations to agreed text.
July 1994	**Working Group(s)** to consider consequential amendments and complete manual; **Sub-Committee** to adopt agreed text.
December 1994	**Committee** to adopt rationalized Test Manual.

Working Group Procedure

July 1993

Monday Plenary discussions on Part I and terms of reference for working group.

Monday p.m. to
Wednesday lunch
Working group on Part I and related items.

Wednesday p.m. to
Friday Class 1 matters and report of working group.

December 1993

Monday Plenary discussions on Parts II and III and terms of reference for working group

Monday p.m. to
Thursday lunch Working group on Parts II and III and related items

Friday a.m. Report of working group

July 1994

Week 1:

Monday Plenary discussions on Part I and Chapter 4.

Monday p.m. to
Wednesday lunch Working group on Parts I and Chapter 4

Wednesday p.m. to
Friday Class 1 matters and working group report

Week 2:

Monday Plenary discussions on Parts II, III and Chapters 5, 11 and 14

Monday p.m. to
Wednesday lunch Working group on Parts II and III and Chapters 5, 11 and 14

Thursday a.m. Report of working group.

Annex 3

Amendments to Chapters 2, 3, 12, Appendix A and the Index of the Recommendations on the Transport of Dangerous Goods

(See document ST/SG/AC.10/19/Add.2)

Annex 4

Revised Chapter 13 of the Recommendations on the Transport of Dangerous Goods

(See document ST/SG/AC.10/19/Add.3)

Annex 5

Amendments to Chapters 9, 10 and 16 of the Recommendations on the Transport of Dangerous Goods

(See document ST/SG/AC.10/19/Add.4)

Annex 6

Revised text for Division 6.2 of the Recommendations on the Transport of Dangerous Goods

(See document ST/SG/AC.10/19/Add.5)

Annex 7

Amendments to the Recommendations on the Transport of Dangerous Goods, Tests and Criteria (including new tests and criteria for lithium batteries)

(See document ST/SG/AC.10/19/Add.6)

Annex 8

TABLE OF PRINCIPLES TO ASSIGN PROPER SHIPPING NAMES FOR N.O.S. ENTRIES

Kind of N.O.S. entries	Primary risk only. N.O.S. - Entry in one class/division	Primary risk and subsidiary risk(s) N.O.S. - Entry in one class/Division	Primary risk only. N.O.S. - Entries in more than one class/division	Primary risk and subsidiary risk(s). N.O.S. - Entries in more than one class/division	Proper shpping name of N.O.S. - Entry in capital letters; primary risk(s) or primary and subsidiary risk(s)	Proper shipping name of N.O.S. - Entry; no indication of primary risk
(a) General Entry	+	-	-	-	+	-
(b) General Entry	-	+	-	-	+	-
(c) General Entry	-	-	not possible	-	-	-
(d) General Entry	-	-	-	+	+	-
(e) General Entry	+	-	-	-	-	+
(f) General Entry	-	+	-	-	+	-
(g) General Entry	-	-	+	-	+	-
(h) General Entry	-	-	-	+	+	-

Examples of proper shipping names of N.O.S. - Entries [(a) - (h)]

(a) FLAMMABLE LIQUID; N.O.S. (UN No. 1993)

(b) COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. (UN No. 1953)

(c) Not possible

(d) FLAMMABLE LIQUID, CORROSIVE, N.O.S. (UN No. 2924)
CORROSIVE LIQUID, FLAMMABLE, N.O.S. (UN No. 2920)

(e) CAUSTIC ALKALI LIQUID, N.O.S. (UN NO. 1719)

(f) ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S. (UN No. 3206) (Amended)

(g) METAL POWDERS, FLAMMABLE, N.O.S. (UN No. 3089)
METAL POWDERS, SELF-HEATING, N.O.S. (UN No. 3189)

(h) PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash point $\geq 23°$ C (UN No. 2903)
PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash point $< 23°$ C (UN No. 3021)

Annex 9

DRAFT RESOLUTION OF THE ECONOMIC AND SOCIAL COUNCIL

1993/XX Work of the Committee of Experts on the Transport of Dangerous Goods

The Economic and Social Council,

Recalling its resolutions 468 (XV) of 15 April 1953, 1983/7 of 26 May 1983, 1985/9 of 28 May 1985, 1986/66 of 23 July 1986, 1987/54 of 28 May 1987, 1989/104 of 27 July 1989, and 1991/57 of 26 July 1991,

Noting the ever-increasing volume of dangerous goods in worldwide commerce and the rapid expansion of technology and innovation,

Noting also the request made by the United Nations Conference on the Environment and Development in Chapter 19 of Agenda 21 that international bodies, including inter alia, the International Programme on Chemical Safety (United Nations Environment Programme, International Labour Organisation, World Health Organization), the International Maritime Organization, the Food and Agriculture Organization, the Committee of Experts on the Transport of Dangerous Goods, the Organization for Economic Cooperation and Development, in cooperation with regional and national authorities having existing classification and labelling and other information-dissemination systems, should establish a coordinating group with a view to establishing and elaborating a harmonized classification and labelling system for chemicals,

Noting further that in response to its requests made in its resolutions 1983/7, 1985/9, 1986/66, 1987/545, 1989/104 and 1991/57 for adequate staff resources for servicing the Committee, an additional Professional Post has been granted but had not yet been officially filled inspite of temporary redeployment arrangements,

Bearing in mind the continuing need to meet the growing concern for the protection of life, property and the environment through the safe transport of dangerous goods while facilitating trade,

Aware that, in order to achieve internationally harmonized laws, the specialized agencies and other international organizations involved in activities related to the transport of dangerous goods and interested Member States have responded positively to its various resolutions issued since 15 April 1953 and are committed to taking the recommendations of the Committee of Experts on the Transport of Dangerous Goods as a basis for the formulation of their requirements and regulations, including those concerning labelling and classification, and therefore rely on the work of the Committee,

Aware also of the concern expressed by one of these specialized agencies, the International Maritime Organization, in its Assembly Resolution A. 717 (17) with regard to the development of new conventions, legislations and recommendations relating to dangerous goods or to the management of chemicals outside the coordinated forum of the Committee of Experts on the

Transport of Dangerous Goods, whereby all United Nations and other intergovernmental bodies concerned working on various aspects of the management of chemicals are urged to coordinate their efforts in order to ensure the compatibility of any legislation on chemicals with established transport rules and regulations,

Recognizing the increasing need for cooperation between international bodies involved in activities related to the transport of dangerous goods and those involved in other aspects of chemical safety,

Confirming the need for the Committee of Experts on the Transport of Dangerous Goods to participate actively in relevant activities associated with the implementation of Agenda 21,

Reaffirming the desirability of widening the decision-making base of the Committee by encouraging the participation of developing countries and other non-member countries in its future work,

1. *Takes note* of the report of the Secretary-General on the work of the Committee of Experts on the Transport of Dangerous Goods during the biennium 1991 -1992 and of the new and amended recommendations approved by the Committee for inclusion in its existing recommendations;

2. *Requests* the Secretary-General:

(a) To incorporate in the existing recommendations of the Committee of Experts on the Transport of Dangerous Goods all the new and amended recommendations approved by the Committee at its seventeenth session;

(b) To publish the new and amended recommendations in all the official languages of the United Nations, in the most cost-effective manner, not later than the end of 1993;

(c) To circulate the new and amended recommendations immediately after their publication to the Governments of Member States, the specialized agencies, the International Atomic Energy Agency and the other international organizations concerned;

3. *Invites* all Governments, the specialized agencies, the International Atomic Energy Agency and the other international organizations concerned to transmit to the Secretary-General their views on the Committee's work, together with any comments they may wish to make on the amended recommendations;

4. *Invites* all interested Governments and the international organizations concerned, when developing appropriate codes and regulations, to take full account of the recommendations of the Committee;

5. *Invites* all Governments and the international organizations concerned with implementation of Chapter 19 of Agenda 21 and participating in the development of a globally harmonized system of classification and labelling of chemicals to avoid duplication of work and to ensure that, to the greatest extent possible, the new system is drawn on, or is compatible with, the internationally well-recognized and implemented system developed by the Committee of Experts on the Transport of Dangerous Goods;

6. *Requests* the Secretary-General to take all necessary steps for ensuring secretariat representation of the Committee of Experts on the Transport of Dangerous Goods at appropriate meetings of international organizations committed to implementing the recommendations of the Committee or involved in the process of global harmonization of classification and labelling systems for chemicals;

7. *Recommends once again* that adequate funding be provided to support the work of the Committee;

8. *Recommends* that the staff necessary for the adequate servicing of the Committee continue to be made available, and that the vacant Professional post be filled as a matter of priority;

9. *Requests* the Secretary-General to submit a report to the Council in 1995 on the implementation of the present resolution.

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16 February 1993

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COMMITTEE OF EXPERTS ON THE TRANSPORT
OF DANGEROUS GOODS

REPORT OF THE COMMITTEE OF EXPERTS ON ITS SEVENTEENTH SESSION

(7-16 December 1992)

Addendum 1

Annex 1: Amendments to Chapters 1, 4, 5, 6 (Division 6.1 only), 8, 11, 14 and 15 of the Recommendations on the Transport of Dangerous Goods.

GE.93-20594

Wherever they may appear,
replace the words "harmful" and "poisonous" by " "toxic".

CHAPTER 1 - SCOPE OF THE RECOMMENDATIONS

Paragraph

1.9.3 (new) Add a new paragraph 1.9.3 to read as follows:

"**1.9.3** Many of the substances listed in Classes 1 to 9 are deemed, without additional labelling, as being environmentally hazardous".

1.10 In the first sentence insert "or initial melting point" before "of 20 °C".

Amend the beginning of the second sentence to read:

"A viscous substance for which a specific melting point cannot be determined should be subjected to ..." (remainder unchanged except for the reference to "ASTM D 4359-84" which should be replaced by "ASTM D 4359-90").

1.19 Add the following text to the end of paragraph 1.19:

"... normally referred to as the flashpoint. However such liquids with a flashpoint of more than 35°C which do not sustain combustion need not to be considered as flammable liquids for the purposes of these Recommendations. Liquids offered for transport at temperatures at or above their flashpoint are in any case considered as flammable liquids. Flammable liquids also include substances that are transported or offered for transport at elevated temperatures in a liquid state and which give off a flammable vapour at a temperature at or below the maximum transport temperature."

1.20 Amend the second sentence to read:

"Grouping criteria and some methods of determining the flashpoint of substances in this class, together with a method of testing for combustibility, are set out in Chapter 5."

1.23 Paragraph 1.23, add a new "NOTE 1", as follows:

"NOTE 1: Genetically modified micro-organisms and organisms which do not meet the definition of an infectious substance should be considered for classification in Class 9 and assignment to UN 3245".

Renumber existing "Note 1" as "NOTE 2" and amend it to read as follows:

"NOTE 2: Toxins from plant, animal or bacterial sources which do not contain any infectious substances or organisms or which are not contained in them should be considered for classification in Division 6.1 and assignment to UN 3172".

Delete the existing "Note 2".

1.25 Paragraph 1.25, amend the end of the second sentence to read as follows:

"Regulations for the Safe Transport of Radioactive Material, 1985 Edition (As amended 1990)".

1.27 Add the following to paragraph 1.27:

"This class includes substances that are transported or offered for transport at temperatures equal to or exceeding 100°C in a liquid state or at temperatures equal to or exceeding 240°C in a solid state".

1.43 Paragraph 1.43, amend to read as follows:

"**1.43** The figures shown in the 'subsidiary risk' column for some of the items listed in Chapter 2, indicate the class(es), division(s), etc. of important subsidiary risks identified for those items".

1.44 Paragraph 1.44 the sixth indent should read:

"substances of Division 6.1 with a Packing Group I inhalation toxicity*/".

Table 1.1

Amend the table of "Precedence of Hazards" as follows:

"4.2	II	+	8	I	liquid - 8
4.2	II	+	8	II	liquid - 4.2
4.2	II	+	8	III	liquid - 4.2
4.2	III	+	8	I	liquid - 8
4.2	III	+	8	II	liquid - 8
4.2	III	+	8	III	liquid - 4.2"

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*/ Except for substances or preparations meeting the criteria of Class 8 having an inhalation toxicity of dusts and mists (LC_{50}) in the range of Packing Group I, but toxicity through oral ingestion or dermal contact only in the range of Packing Group III or less, which should be allocated to Class 8.

1.46 Add a new paragraph to read as follows:

"Documentation and identification of fumigated transport units

1.46 Many consignments of goods are treated with fumigants that pose a risk during transport, in particular to workers who may be exposed unknowingly when they open transport units. These Recommendations address fumigated transport units as consignments that are subject to special documentation and warning sign recommendations in the consignment procedures of Chapter 13 (see 13.10)."

Figure 1.1

Amend 3.1 to read as follows:

"3.1 Flammable vapour
3.1.1 Flashpoint ....°C c.c/o.c (5.4*/)
3.1.2 Is combustion sustained? Yes/no (5.7*/)"

CHAPTER 4 - SPECIAL RECOMMENDATIONS RELATING TO CLASS 1

Paragraph

4.4.4 and (new) 4.4.5 (new) Under the heading "Assignment to hazard divisions", insert new paragraphs 4.4.4 and 4.4.5 as follows:

"4.4.4 Where a substance provisionally accepted into Class 1 is exempted from Class 1 by performing Test Series 6 on a specific type and size of package, this substance, when meeting the classification criteria or definition for another class or division, should be listed in Chapter 2 in that class or division with a special provision restricting it to the type and size of package tested (see 14.2.2.1.2).

4.4.5 Where a substance is assigned to Class 1 but is diluted to be exempted from Class 1 by Test Series 6, this diluted substance, when meeting the classification criteria or definition for another class or division, should be listed in Chapter 2 in that class or division, at the highest concentration which exempts it from Class 1 (see 14.2.3.1). When sufficiently diluted, such substances may be deemed to be non-dangerous."

4.4.4 Under the heading "Determination of compatibility group", renumber the existing paragraph "4.4.4" as "4.4.6".

Paragraph

4.7.2 Paragraph to be deleted.

4.7.3 Paragraph to be renumbered 4.7.2.

4.8 In the description for "POWDER, SMOKELESS", delete the word "generally".

In the glossary of terms add the term

"PROPELLANTS, LIQUID: Substances consisting of a deflagrating liquid explosive, used for propulsion".

Add the term

"PROPELLANTS, SOLID

Substances consisting of a deflagrating solid explosive, used for propulsion".

Table 4.1

After the existing description of compatability Group B, add a new sentence as follows:

"Some articles, such as detonators for blasting, detonator assemblies for blasting and primers, cap-type, are included, even though they do not contain primary explosives."

Table 4.3

Amend the entry for "Explosive, deflagrating" and add two new entries for "Propellant, solid" and "Propellant, liquid" as follows:

Description or term	UN Number
Explosive, deflagrating	...., 0407, 0448, 0495, 0497, 0498, 0499
Propellant, solid	0498, 0499
Propellant, liquid	0495, 0497

CHAPTER 5 - SPECIAL RECOMMENDATIONS RELATING TO CLASS 3

Paragraph

5.1 Amend the second sentence to read:

"Substances are listed in this Class only when their flashpoint is not more than 60.5 °C closed-cup test, or not more than 65.6 °C open-cup test or in the case of substances transported or offered for transport at elevated temperatures, when they give off a flammable vapour at a temperature at or below the maximum transport temperature."

5.2 Renumber existing 5.2 as 5.1.2 and replace the word "must" by "should".

5.2 (new) Insert the following new paragraph:

"**5.2** Liquids are considered to be non-combustible for the purposes of these Recommendations (i.e. they do not sustain combustion under defined test conditions) if they have passed a suitable combustibility test (see section 5.7), if their fire point according to ISO 2592:1973 is greater than 100 °C, or if they are water miscible solutions with a water content of more than 90% by mass."

5.3.4 (new) Add a new paragraph 5.3.4 to read:

"**5.3.4** Substances classified as flammable liquids due to their being transported or offered for transport at elevated temperatures are included in Packing Group III."

5.4 Replace "ASTM D 3278-78" by "ASTM D 3278-89".
Replace "ASTM D 93-80" by "ASTM D 93-90".

5.6 (b) Add the following:

"(Note: The mixture is not necessarily required to bear a Division 6.1 or Class 8 subsidiary risk label)."

5.6(c) Replace the existing table with the following :

Flow time t in seconds	Jet diameter in mm	Flashpoint in °C c.c.
$20 < t \leq 60$	4	above 17
$60 < t \leq 100$	4	above 10
$20 < t \leq 32$	6	above 5
$32 < t \leq 44$	6	above -1
$44 < t \leq 100$	6	above -5
$100 < t$	6	-5 and below

Paragraph

5.6.1 (a) Amend as follows:

"**5.6.1 (a)** *Viscosity test*: The flow time in seconds is determined at 23 °C using the ISO standard cup with a 4 mm jet (ISO 2431:1984). Where the flow time exceeds 100 seconds, a further test is carried out using the ISO standard cup with a 6 mm jet."

5.6.1 (b) Replace "ISO/1523/73" by "ISO 1523:1983".

After 5.6.1 (c), add a new heading and a new section 5.7 as follows:

5.7 "METHOD OF TESTING FOR COMBUSTIBILITY

5.7 The method describes a procedure for determining if the substance when heated under the test conditions and exposed to an external source of flame applied in a standard manner sustains combustion.

5.7.1 Principle of the method: A metal block with a concave depression (test portion well) is heated to a specified temperature. A specified volume of the substance under test is transferred to the well and its ability to sustain combustion is noted after application and subsequent removal of a standard flame under specified conditions.

5.7.2 Apparatus: A combustibility tester consisting of a block of aluminium alloy or other corrosion-resistant metal of high thermal conductivity is used. The block has a concave well and a pocket drilled to take a thermometer. A small gas jet assembly on a swivel is attached to the block. The handle and gas inlet for the gas jet may be fitted at any convenient angle to the gas jet. A suitable apparatus is shown in Figure 5.1 and the essential dimensions are given in Figures 5.1 and 5.2. The following equipment is needed:

(a) *Gauge*, for checking that the height of the centre of the gas jet above the top of the test portion well is 2.2 mm (see Figure 5.1);

(b) *Thermometer*, mercury in glass, for horizontal operation, with a sensitivity not less than 1 mm/°C, or other measuring device of equivalent sensitivity permitting reading at 0.5 °C intervals. When in position in the block, the thermometer bulb should be surrounded with thermally conducting thermoplastic compound;

(c) *Hotplate*, fitted with a temperature-control device. (Other types of apparatus with suitable temperature-control facilities may be employed to heat the metal bock);

(d) *Stopwatch*, or other suitable timing device;

(e) *Syringe*, capable of delivering 2 ml to an accuracy of $\pm$ 0.1 ml; and

(f) *Fuel source*, butane test fuel.

5.7.3 Sampling: The sample should be representative of the substance to be tested and should be supplied and kept in a tightly closed container prior to test. Because of the possibility of loss of volatile constituents, the sample should receive only the minimum treatment to ensure its homogeneity. After removing each test portion, the sample container should be immediately closed tightly to ensure that no volatile components escape from the container; if this closure is incomplete, an entirely new sample should be taken.

5.7.4 Procedure: Carry out the determination in triplicate.

***WARNING** - Do not carry out the test in a small confined area (for example a glove box), because of the hazard of explosions.*

(a) It is essential that the apparatus is set up in a completely draught-free area (see warning) and in the absence of strong light to facilitate observation of flash, flame, etc.

(b) Place the metal block on the hotplate or heat the metal block by other suitable means so that its temperature, as indicated by the thermometer placed in the metal block, is maintained at the specified temperature within a tolerance of $\pm$ 1 °C. The test temperature is 60.5 °C or 75 °C, see (h). Correct this temperature for the difference in barometric pressure from the standard atmospheric pressure (101.3kPa) by raising the test temperature for a higher pressure or lowering the test temperature for a lower pressure by 1.0 °C for each 4 kPa difference. Ensure that the top of the metal block is exactly horizontal. Use the gauge to check that the jet is 2.2 mm above the top of the well when in the test position.

(c) Light the butane test fuel with the jet away from the test position (i.e. in the "off" position, away from the well). Adjust the size of the flame so that it is 8 mm to 9 mm high and approximately 5 mm wide.

(d) using the syringe, take from the sample container at least 2 ml of the sample and rapidly transfer a test portion of 2 ml $\pm$ 0.1 ml to the well of the combustibility tester and immediately start the timing device.

(e) After a heating time of 60 s, by which time the test portion is deemed to have reached its equilibrium temperature, and if the test fluid has not ignited, swing the test flame into the test position over the edge of the pool of liquid. Maintain it in this position for 15 s and then return it to the "off" position while observing the behaviour of the test portion. The test flame should remain alight throughout the test.

(f) For each test observe and record:

(i) whether there is ignition and sustained combustion or flashing, or neither, of the test portion before the test flame is moved into the test position;

(ii) whether the test portion ignites while the test flame is in the test position, and, if so, how long combustion is sustained after the test flame is returned to the "off" position.

(g) If sustained combustion interpreted in accordance with 5.7.5 is not found, repeat the complete procedure with new test portions, but with a heating time of 30 s.

(h) If sustained combustion interpreted in accordance with 5.7.5 is not found at a test temperature of 60.5 °C, repeat the complete procedure with new test portions, but at a test temperature of 75 °C.

5.7.5 Interpretation of observations: The substance should be assessed either as not sustaining combustion or as sustaining combustion. Sustained combustion should be reported at either of the heating times if one of the following occurs with either of the test portions:

(a) when the test flame is in the "off" position, the test portion ignites and sustains combustion;

(b) the test portion ignites while the test flame is in the test position, maintained for 15 s, and sustains combustion for more than 15 s after the test flame has been returned to the "off" position.

Intermittent flashing should not be interpreted as sustained combustion. Normally, at the end of 15 s, the combustion has either clearly ceased or continues. In cases of doubt the substance should be deemed to sustain combustion."

Dimensions in millimetres

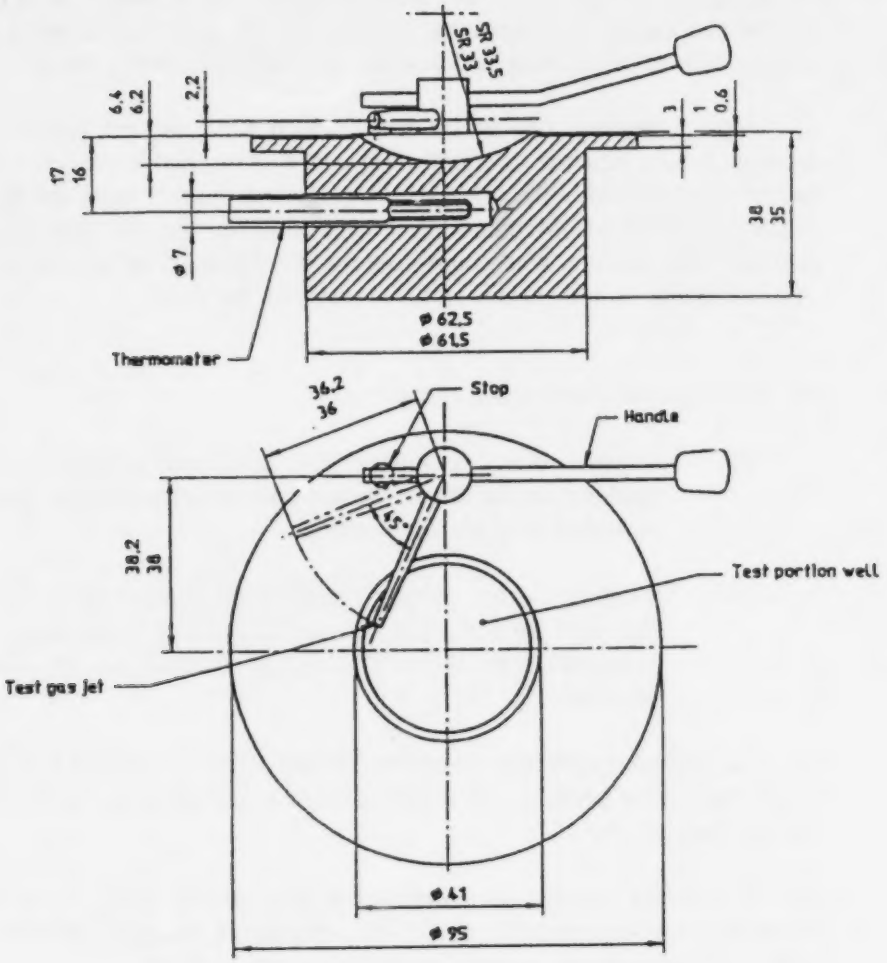

Figure 5.1 - Combustibility tester

Dimensions in millimetres

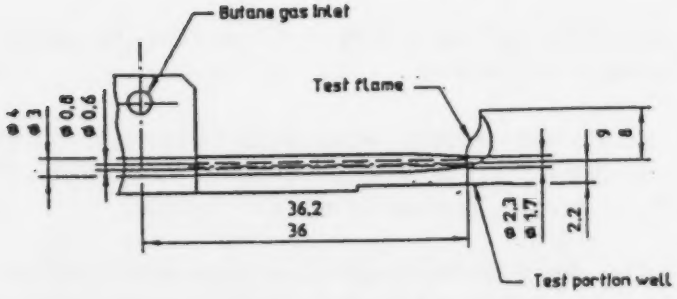

Figure 5.2 - Test gas jet and flame

CHAPTER 6 - SPECIAL RECOMMENDATIONS RELATING TO CLASS 6 DIVISION 6.1 TOXIC SUBSTANCES

Paragraph

6.4.1 Introduce the following footnote relating to paragraph 6.4.1:

"Substances meeting the criteria of Class 8 and with an inhalation toxicity of dusts and mists (LC_{50}) leading to Packing Group I should only be accepted for an allocation to Division 6.1 if the toxicity through oral ingestion or dermal contact is at least in the range of Packing Group I or II. Otherwise an allocation to Class 8 should be made when appropriate (see footnote*/ in Chapter 8, paragraph 8.2)".

Table 6.1 Metam-sodium: Replace the referenced UN numbers "2588, 2902, 2903 and 3021" by "2771, 2772, 3005 and 3006".

CHAPTER 8 - SPECIAL RECOMMENDATIONS RELATING TO CLASS 8

Chapter 8

Revise the whole Chapter 8 to read as follows:

"8.1 Substances and preparations of Class 8 are divided among the three packing groups according to their degree of hazard in transport as follows:

(a) Packing Group I: very dangerous substances and preparations;

(b) Packing Group II: substances and preparations presenting medium danger;

(c) Packing Group III: substances and preparations presenting minor danger.

8.2 Allocation of substances to the packing groups in Class 8 has been on the basis of experience taking into account such additional factors as inhalation risk1/ and reactivity with water (including the formation of dangerous decomposition products). New substances, including mixtures, can be judged by the length of time of contact necessary to produce full thickness destruction of human skin. Substances which are judged not to cause full thickness destruction of human skin should still be considered for their potential to cause corrosion to certain metal surfaces.

1/ A substance or preparation meeting the criteria of Class 8 having an inhalation toxicity of dusts and mists (LC_{50}) in the range of Packing Group I, but toxicity through oral ingestion or dermal contact only in the range of Packing Group III or less, should be allocated to Class 8 (see footnote under paragraph 6.4.1).

8.3 In making this grouping, account should be taken of human experience in instances of accidental exposure. In the absence of human experience the grouping should be based on data obtained from animal experiments in accordance with OECD Guideline 404[2/].

8.4 The test criteria for the three groups in this Class are:

Packing Group I (very dangerous substances)

Substances that cause full thickness destruction of intact skin tissue within an observation period up to 60 minutes starting after the exposure time of three minutes or less.

Packing Group II (substances presenting medium danger)

Substances that cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than three minutes but not more than 60 minutes.

Packing Group III (substances presenting minor danger)

(a) Substances that cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than 60 minutes but not more than 4 hours.

(b) Substances which are judged not to cause full thickness destruction of intact skin tissue but which exhibit a corrosion rate on steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55°C. For the purposes of testing steel, type P3 (ISO 2604 (IV):1975) or a similar type, and for testing aluminium, non-clad types 7075-T6 or AZ5GU-T6, should be used."

CHAPTER 11 - SPECIAL RECOMMENDATIONS RELATING TO CLASS 5

Table 11.2 (A)

In Table 11.2 (A), footnote 1, amend the words:

"... the maximum net mass per inner receptacle and ... "
to read:

"... the maximum net mass per inner packaging and ...".

and in footnote 3, second sentence, amend the words:

2/ OECD Guidelines for testing of chemicals No. 404 "Acute Dermal Irritation/Corrosion" 1992.

"Inner receptacles should be suitable for liquids"
to read:

"Inner packagings should be suitable for liquids".

Table 11.2 (B)

In Table 11.2 (B), footnote 1, amend the words:

"... the maximum net mass per inner receptacle and ..."
to read:

"... the maximum net mass per inner packaging and ..."

Paragraph

11.3.2.4 Append the following text to paragraph "11.3.2.4":

"Mixtures of these formulations may be classified as the same type of organic peroxide as that of the most dangerous component and be transported under the conditions of transport given for this type. However, as two stable components can form a thermally less stable mixture, the self-accelerating decomposition temperature of the mixture should be determined and, if necessary, the control and emergency temperatures derived from the SADT in accordance with 11.3.5"

11.3.2.5 Amend to read:

"Allocation of new organic peroxides or new formulations or mixtures of currently assigned organic peroxides to a generic entry should be made by the competent authority of the country of origin on the basis of a test report. Test methods and criteria and an example of a report are given in the current edition of the Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Part III. The statement of approval should contain the classification and the relevant transport conditions (see 13.6.1.5)."

11.3.4.4 Amend to read:

"Water may only be used for the desensitization of organic peroxides which are shown in Table 11.3 or in the statement of approval according to 11.3.2.5 as being with water or as a stable dispersion in water."

11.3.12.2 Delete the last paragraph reading "For organic peroxides ... destination."

Table 11.3

1. Amend Table 11.3 with reference to the columns "Concentration (%)" and (in two cases only) "Diluent type A (%)" for the following organic peroxide formulations:

ORGANIC PEROXIDE	Number (Generic entry)	Concentration (%) Amend present figures	to read	Diluent type A(%) Amend present figure	to read
n-BUTYL-4-4-DI-(tert-BUTYLPEROXY) VALERATE	3103	53 - 100	> 52 - 100		
tert-BUTYL HYDROPEROXIDE	3103	73 - 90	> 79 - 90		
tert-BUTYL MONOPEROXYMALEATE	3102	53 - 100	> 52 - 100		
tert-BUTYL PEROXYACETATE	3101	53 - 77	> 52 - 77		
tert-BUTYL PEROXYACETATE	3103	≤ 52	> 32 - 52		
tert-BUTYL PEROXYBENZOATE	3105	53 - 77	> 52 - 77		
tert-BUTYL PEROXYBENZOATE	3103	78 - 100	> 77 - 100		
tert-BUTYL PEROXY-2-ETHYLHEXANOATE	3113	53 - 100	> 52 - 100		
tert-BUTYL PEROXY-2-ETHYLHEXANOATE	3117	≤ 52	> 32 - 52		
tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	3105	≤ 100	> 32 - 100		
tert-BUTYL PEROXYISOBUTYRATE	3111	53 - 77	> 52 - 77		
tert- BUTYL PEROXYNEODECANOATE	3115	78 - 100	> 77 - 100		
tert-BUTYL PEROXYPIVALATE	3113	68 - 77	> 67 - 77		
tert-BUTYL PEROXYPIVALATE	3115	≤ 67	> 27 - 67		
3-CHLOROPEROXYBENZOIC ACID	3102	58 - 86	> 57 - 86		
DIBENZOYL PEROXIDE	3106	36 - 52	> 35 - 52		

ORGANIC PEROXIDE	Number (Generic entry)	Concentration (%) Amend present figures	to read	Diluent type A(%) Amend present figure	to read
DIBENZOYL PEROXIDE	3102	52 - 100	> 51 - 100		
DIBENZOYL PEROXIDE	3102	78 - 94	> 77 - 94		
DIBENZOYL PEROXIDE	3106	53 - 62 as a paste	> 52 - 62 as a paste		
DI-tert-BUTYL PEROXIDE	3107	≤ 100	> 32 - 100		
1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE	3103	53 - 80	> 52 - 80		
1,1-DI(tert-BUTYLPEROXY) CYCLOHEXANE	3101	81 - 100	> 80 - 100		
DI-n-BUTYL PEROXYDICARBONATE	3115	28 - 52	> 27 - 52		
DI-sec-BUTYL PEROXYDICARBONATE	3113	53 - 100	> 52 - 100		
DI-(2-tert-BUTYLPEROXYISOPROPYL) BENZENE(S)	3106	43 - 100	> 42 - 100		
DI-(tert-BUTYLPEROXY) PHTHALATE	3105	43 - 52	> 42 - 52		
1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE	3101	58 - 100	> 90 - 100		
DICUMYL PEROXIDE	3110	43 - 100	> 42 - 100		
DICYCLOHEXYL PEROXYDICARBONATE	3112	92 - 100	> 91 - 100		
DI-(2-ETHYLHEXYL) PEROXYDICARBONATE	3113	78 - 100	> 77 - 100		
DIISOBUTYRYL PEROXIDE	3111	33 - 52	> 32 - 52		
DIISOPROPYL PEROXYDICARBONATE	3112	53 - 100	> 52 - 100		

ORGANIC PEROXIDE	Number (Generic entry)	Concentration (%) Amend present figures	to read	Diluent type A(%) Amend present figure	to read
2,5-DIMETHYL-2,5-DI(BENZOYLPEROXY) HEXANE	3102	83 - 100	> 82 - 100		
2,5-DIMETHYL-2,5-DI(tert-BUTYLPEROXY)HEXANE	3105	53 - 100	> 52 - 100		
2,5-DIMETHYL-2,5-DI(tert-BUTYLPEROXY) HEXYNE-3	3103	53 - 100	> 52 - 100		
DIPEROXY DODECANE DIACID	3116	14 - 42	> 13 - 42		
DI-(2-PHENOXYETHYL) PEROXYDICARBONATE	3102	86 - 100	> 85 - 100		
DISUCCINIC ACID PEROXIDE	3102	73 - 100	> 72 - 100		
DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE	3115	≤ 82	> 38 - 82		
ETHYL 3,3-DI(tert-BUTYLPEROXY) BUTYRATE	3103	78 - 100	> 77 - 100		
3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE	3102	53 - 100	> 52 - 100		
p-MENTHYL HYDROPEROXIDE	3109	≤ 55	< 56	≥ 45	> 44
PINANYL HYDROPEROXIDE	3109	≤ 55	< 56	≥ 45	> 44

Table 11.3 (cont'd)

2. Amend the following entries:

tert-BUTYL PEROXY-2-ETHYLHEXANOATE, ≤52%, 3117: replace "+20" and "+25" by "+30" and "+35" respectively;

DIACETONE ALCOHOL PEROXIDES, ≤57%, 3115: replace "+30" and "+35" by "+40" and "+45";

DICETYL PEROXYDICARBONATE, ≤100%, 3116: replace "+20" and "+25" by "+30" and "+35";

DIDECANOYL PEROXIDE, ≤100%, 3114: replace "+15" and "+20" by "+30 and "+35" respectively.

METHYL ETHYL KETONE PEROXIDE(S), ≤40%, 3107: add remark "11)" in column "Subsidiary risk and remarks";

DISUCCINIC ACID PEROXIDE, 73-100%, 3102: add remark "18)" in column "Subsidiary risk and remarks";

DISUCCINIC ACID PEROXIDE, ≤72%, 3116: delete remark "18)" in column "Subsidiary risk and remarks".

3. Delete note 6) from "Notes to Table 11.3" and notes 7) to 23) should be renumbered as notes 6) to 22) in both Table 11.3 and the notes to the Table 11.3.

4. Amend the name "2,2-DI-(4,4-tert-BUTYLPEROXYCYCLOHEXYL)-PROPANE" to read "2,2-DI-(4,4-DI(tert-BUTYLPEROXY) CYCLOHEXYL)-PROPANE";

5. Add the following new entries:

	Conc.	DIL.A	DIL.B	INERT SOLID	WATER	PACK	UN
tert-BUTYL CUMYL PEROXIDE	≤ 42			≥ 58		OP7B	3106
"1-(2-tert-BUTYLPEROXY ISOPROPYL)-3- ISOPROPENYLBENZENE	≤77%	≥23%				OP7A	3105
3-CHLOROPEROXYBENZOIC ACID	≤72%			≥10%	≥18%	OP7B	3106
DI-tert-BUTYL PEROXYAZELATE	≤52%	≥48%				OP7A	3105
2,4,4-TRIMETHYLPENTYL-2-PEROXYNEODECANOATE	≤72%	≥28%				OP7A	3115*

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* CONTROL TEMPERATURE -5°C; EMERGENCY TEMPERATURE +5°C.

Additions to Table 11.3: LIST OF CURRENTLY ASSIGNED ORGANIC PEROXIDES continued

ORGANIC PEROXIDE	Concentration (%)	Diluent type A (%)	Diluent type B (%)	Inert solid (%)	Water (%)	Packing Method	Control Temperature (°C)	Emergency Temperature (°C)	Number (Generic entry)	Subsidiary risks and remarks
DIBENZOYL PEROXIDE	>36 - 42	≥ 18			≤ 40	OP8A			3107	
DI-tert-BUTYL PEROXIDE	≤ 32	≥ 68				OP8A, H, H			3109	
1,1-DI-(tert-BUTYLPEROXY)-3,5,5-TRIMETHYLCYCLOHEXANE	>57 - 90	≥ 10				OP5A			3103	
DI-ISOPROPYLBENZENE DIHYDROPEROXIDE	≤ 82	≥ 5			≥ 5	OP7B			3106	24)
DI-(4-METHYLBENZOYL) PEROXIDE	≤ 52 as paste with silicon oil					OP7B			3106	
2,5-DIMETHYL-2,5-DI(tert-BUTYLPEROXY)-HEXANE	≤ 47 as a paste					OP8B			3108	
2,5-DIMETHYL-2,5-DI(tert-BUTYLPEROXY)-HEXANE	≤ 52	≥ 48				OP8A			3109	
DI-(2-NEODECANOYLPEROXYISOPROPYL)BENZENE	≤ 52	≥ 48				OP7A	- 10	0	3115	
DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE	≤ 52 as a stable dispersion in water					OP8A	+ 10	+ 15	3117	
DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE	≤ 38	≥ 62				OP8A H, H	+ 20	+ 25	3119	
2,4,4-TRIMETHYLPENTYL-2-PEROXY-NEODECANOATE	≤ 72	—	≥28			OP7A	- 5	+ 5	3115	

Additional notes on Table 11.3

23) With < 6% di-tert-butyl peroxide

24) With ≤ 8% 1-isopropylhydroperoxy-4-isopropylhydroxybenzene

ORGANIC PEROXIDE	Concentration (%)	Diluent type A (%)	Diluent type B (%)	Inert solid (%)	Water (%)	Packing Method	Control Temperature (°C)	Emergency Temperature (°C)	Number (Generic entry)	Subsidiary risks and remarks
tert-BUTYL HYDROPEROXIDE	≤ 79				> 14	OP8A			3107	13) 23)
tert-BUTYL PEROXYACETATE	≤ 32	≥ 68				OP8A, N, H			3109	
tert-BUTYL PEROXYBUTYLFUMARATE	≤ 52	≥ 48				OP7A			3105	
tert-BUTYL PEROXY-2-ETHYLHEXANOATE	≤ 52			≥ 48		OP8B	+ 20	+ 25	3118	
tert-BUTYL PEROXY-2-ETHYLHEXANOATE	≤ 32		≥ 68			OP8A, N, H	+ 40	+ 45	3119	
tert-BUTYL PEROXY-2-ETHYLHEXYLCARBONATE	≤ 100					OP7A			3105	
1-(2-tert-BUTYLPEROXYISOPROPYL)-3-ISOPROPENYLBENZENE	≤ 42			≥ 58		OP8B			3108	
tert-BUTYL MONOPEROXYMALEATE	≤ 52 as a paste					OP8B			3108	
tert-BUTYL MONOPEROXYMALEATE	≤ 52			≥ 48		OP8B			3108	
tert-BUTYL PEROXY-2-METHYLBENZOATE	≤ 100					OP5A			3103	
tert-BUTYL PEROXYNEODECANOATE	≤ 42 as a stable dispersion in water					OP8A	0	+ 10	3117	
tert-BUTYL PEROXYNEODECANOATE	≤ 42 as a stable dispersion in water (frozen)					OP8B	0	+ 10	3118	
tert-BUTYL PEROXYPIVALATE	≤ 27		≥ 73			OP8A, N, H	+ 30	+ 35	3119	
tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	≤ 32	≥ 68				OP8A, N, H			3109	
CUMYL HYDROPEROXIDE	>90 - 98	≤ 10				OP8A			3107	13)
DIBENZOYL PEROXIDE	>36 - 42	≥ 58				OP8A			3107	

Table 11.4 : Add the following entries:

Additions to Table 11.4: CURRENTLY ASSIGNED ORGANIC PEROXIDES SUITABLE FOR TRANSPORT IN IBCS

UN No.	ORGANIC PEROXIDE	Type of IBC 1/	Maximum quantity (litres)	Control Temperature	Emergency Temperature
3109	ORGANIC PEROXIDES, TYPE F, LIQUID				
	tert-Butyl peroxyacetate, not more than 32% in diluent type A	31HA1	1000		
	tert-Butyl peroxy-3,5,5-trimethylhexanoate, not more than 32% in diluent type A	31HA1	1000		
	Di-tert-butyl peroxide, not more than 32% in diluent type A	31HA1	1000		
3119	ORGANIC PEROXIDES, TYPE F, LIQUID, TEMPERATURE CONTROLLED				
	tert-Butyl peroxy-2-ethylhexanoate, not more than 32% in diluent type B	31HA1	1000	+ 30 °C	+ 35 °C
	tert-Butyl peroxypivalate, not more than 27% in diluent type B	31HA1	1000	+ 10 °C	+ 15 °C
	Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 38% in diluent type A	31HA1	1000	+ 10 °C	+ 15 °C

Additions to Table 11.5: CURRENTLY ASSIGNED ORGANIC PEROXIDES SUITABLE FOR TRANSPORT IN TANK-CONTAINERS

UN No.	ORGANIC PEROXIDE	Control Temperature	Emergency Temperature
3109	ORGANIC PEROXIDES, TYPE F, LIQUID		
	Di-tert-butyl peroxide, not more than 32% in diluent type A		
3119	ORGANIC PEROXIDES, TYPE F, LIQUID, TEMPERATURE CONTROLLED		
	tert-Butyl peroxyacetate, not more than 32% in diluent type B	+ 30 °C	+ 35 °C
	tert-Butyl peroxy-2-ethylhexanoate, not more than 32% in diluent type B	+ 10 °C	+ 15 °C
	tert-Butyl peroxypivalate, not more than 27% in diluent type B	- 5 °C	+ 5 °C
	tert-Butyl peroxy-3,5,5-trimethylhexanoate, not more than 32% in diluent type B	+ 35 °C	+ 40 °C
	Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 38% in diluent type A	- 10 °C	0 °C

Table 11.5: Add the following entries:

CHAPTER 14 - SPECIAL RECOMMENDATION RELATING TO CLASS 4

Paragraph

14.2.2.1 Division 4.1 (b), Self-reactive and related substances, paragraph 14.2.2.1.1, first sentence should be amended as follows:

"Self-reactive substances are thermally unstable substances liable to undergo a strongly exothermic decomposition even without participation of oxygen (air)."

and

a second note should be added reading as follows:

"Any substance which shows the properties of a self-reactive substance should be classified as such, even if this substance gives a positive test result according to 14.5.5 for inclusion in Division 4.2."

14.2.2.1.1 Amend the fifth indent to read:

"their self-accelerating decomposition temperature (SADT) (see 11.3.5.3) is greater than 75°C for a 50 kg package."

14.2.2.1.2 (new) Add a new paragraph to read:

"**14.2.2.1.2** Substances related to self-reactive substances are distinguished from the latter by having a self-accelerating decomposition temperature greater than 75 °C. They are liable to undergo, as are self-reactive substances, a strongly exothermic decomposition and are liable, in certain packagings, to meet the criteria for explosive substances in Class 1 (see 4.4.4)".

14.2.2.3.1 Amend last sentence of paragraph 14.2.2.3.1 to read: "UN 2956, UN 3242 and UN 3251 are such entries."

14.2.2.3.3 Add to the first sentence: "... on the basis of a test report."

Replace the rest of the text with the following new text:

"Test methods and criteria and an example of a report are given in the current edition of the Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Part III. The statement of approval should contain the classification and the relevant transport conditions (see 13.6.1.5)."

14.2.2.3.5 Delete the last sentence.

14.2.2.4.2(g) In the second sentence replace "or a diluent other than type A" by "or a compatible diluent having a boiling point less than 150 °C".

14.2.2.9.1 Delete the second paragraph reading: "A notification, including ... till ... a report with the test results."

14.2.3.1 At the end of the first sentence, add: "(see 4.4.5)".
Add "3270" in the list of UN numbers.

14.3.2.2 A Note should be added reading as follows:

"Note: Self-reactive substances, except for type G, giving also a positive result with this test method, should not be classified in Division 4.2 but in Division 4.1 (see 14.2.2.1.1)."

Table 14.1

1. In the entry for "N,N'-DINITROSOPENTAMETHYLENETETRAMINE" delete "with diluent type A", add "(5)" in the column "Remarks" and replace "OP7B" by "OP6B".

2. In the entry for "4-METHYLBENZENESULPHONYLHYDRAZIDE" replace "3236" by "3226".

3. Replace the current reference "(5)" in the column "Remarks" by "(6)" (four times).

4. Add a new entry:

	(1)	(2)	(3)	(4)	(5)	(6)
"4-NITROSOPHENOL	100	0P7B	+35	+40	3236"	

5. At the end of Table 14.1 insert the following new remark "(5)":

"(5) With a compatible diluent having a boiling point of not less than 150 °C". Renumber the existing remark "(5)" as "(6)".

CHAPTER 15 - SPECIAL RECOMMENDATIONS FOR DANGEROUS GOODS IN LIMITED QUANTITIES

Paragraph

15.2 (c) Amend to read:

"(c) Self-reactive and related substances, and desensitized explosives of Division 4.1;"

15.2 (e) Amend the text of footnote 1/ to read as follows:

"This exclusion should not apply to test kits, repair kits or similar mixed packets that may contain small quantities of these substances or to packages containing small quantities of organic peroxides (types D, E or F only)."